THE

NATIONAL FORMULARY

OF

UNOFFICINAL PREPARATIONS.

FIRST ISSUE.

BY AUTHORITY OF THE

AMERICAN PHARMACEUTICAL ASSOCIATION.

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PREFACE.

It is well known that the remedies for which the Pharmacopœia prescribes definite standards, constitute only a limited portion of the resources of the medical profession in the treatment of the sick. Without referring to the more ephemeral preparations, or to such as are of a proprietary character, or are used by the public for self-medication, there is a large number of others, which are more or less frequently prescribed by physicians, or demanded by the public, but which are not recognized by the Pharmacopœia, either because they were not deemed by the revisers to be of sufficient importance to be included in the official work, or because they originated subsequently to the appearance of that work, or for other reasons. Owing to the absence of an authoritative standard, many of these unofficial preparations have been, and are being made, after different formulæ, and in varying strength, so that the pharmacists, particularly in the larger cities, are compelled to procure and keep on hand a variety of brands of what is intended to be one and the same preparation, to satisfy the demands of their patrons, professional or otherwise. The evils arising from this condition of things are so well known and so far-reaching in their results, that there is no need of any argument in favor of a plan which may palliate the existing evil, chiefly caused by a lack of uniformity, or the want of a common standard.

In order to bring about a practical amelioration of this state of things, a local Committee representing the College of Pharmacy of the City of New York, the Kings County Pharmaceutical Society of Brooklyn, and the German Apothecaries' Society of the City of New York, several years ago published a book of formulæ, comprising those which were in most frequent use in their immediate vicinity, and recommended the same to the medical profession. As this book appeared at a time which happened to be particularly favorable to the realization of the object sought to be attained, it gained so much ground, even outside of the locality for which it was originally intended, that the Joint Committee, authorized by the Societies which it represented, tendered the work to the American Pharmaceutical Association, at the Annual Meeting held at Pittsburgh, in 1885, as a nucleus for the construction of a National Formulary. The Associa-

tion having accepted the gift, a Committee was appointed to prepare such a work, and as a first result, this Committee presented at the next Annual Meeting, held at Providence, in 1886, a "*Preliminary Draft of a National Formulary*," comprising whatever the Committee had been able to gather, either from existing formularies, or from its own labors, or from the special contributions of individuals or societies. This Draft showed, more forcibly than could have been done in any other manner, how serious the existing evil was, and at the same time, how difficult would be the task to bring into harmony the conflicting views and customs. For the purpose of enabling the Committee to accomplish this task with better expectation of success, it was enlarged by the addition of one member from every State Pharmaceutical Association in the United States and Canada.

The Committee thus constituted has endeavored, to the best of its ability, to carry out the object for which it was appointed. While it was, of course, impossible for most of the members representing other States, personally to attend the weekly meetings of the Committee, held in New York City, yet all important matters were referred to them by circular, and their votes thereon solicited, so that the results, regarded as a whole, truly represent the intentions and decisions of the whole Committee, though individual members may not have agreed upon every detail.

One of the most difficult problems which the Committee encountered, was the selection of the preparations which should be admitted into the Formulary. In order to ascertain the wishes of the different sections of the country, a printed list of the proposed titles was sent to each member, and a vote or expression of opinion thereon asked for. After all the votes had been returned, it was evident that much would still be left to the discretion of the Editing Sub-Committee, which had in the meantime been appointed. The latter, thereupon, prepared a final list of titles, which was again submitted to the members, and this list having been slightly amended in accordance with the suggestions received, was made the basis of the final text, though in the course of editing some further changes, chiefly additions, became necessary in order to fill in existing gaps. On looking over the contents of the book, every individual reader will probably encounter quite a number of preparations with which he is unfamiliar, or which he has never had occasion to use or to dispense, and the presence of which, from his standpoint, may appear superfluous. It should, however, be remembered that every section of this large country had to be considered; hence, what may be entirely unused or only rarely used in one section, may be of common occurrence in another. It is quite probable that some preparations which ought to have been received into the Formulary have been

overlooked, or that some of those introduced are not as frequently employed as has been represented to the Committee. Whatever error may have been committed in one direction or another, will no doubt be corrected in subsequent editions.

While it was at no time contemplated by the Committee as a whole—though, perhaps, by some individual members—to devise imitations of any of the popular nostrums of the present day, yet it was very difficult to decide exactly where the line should be drawn. Consequently the list will be found to include a small number of formulæ which may recall some of the before-mentioned preparations, but which are constructed on rational principles, irrespective of mere external appearance and taste, and mainly with regard to uniform composition and reliable effect. It is not expected that these preparations will readily replace, in the eyes of the public, the much-advertised nostrums, but it is hoped that if proper therapeutic effects are expected from them, they will be used or directed to be used in place of the commercial articles, the composition of which is generally kept secret. A proposition was at one time made to include in the work definitions and descriptions of the more important crude drugs and chemicals which have come into use since the last U. S. Pharmacopœia was issued. But it was found that the labor involved in the task already outlined was so great, that no time could be devoted to any further additions. Hence the project had to be abandoned, though it will be a comparatively easy matter to incorporate these additions in a subsequent edition.

In constructing the formulæ of the compound preparations, it has been the endeavor of the Committee to make them as independent from each other as possible, so that only a comparatively small number of what may be called *basic preparations* need be kept in stock. The principal bases thus required are:

No. 25. Elixir Adjuvans. As a vehicle, chiefly for saline preparations.—No. 31. Aromatic Elixir. Intended to be used as a substitute for the officinal Elixir Aurantii, unless the latter or some other flavored Elixir should be preferred.—No. 42. Elixir of Cinchona.—No. 44. Detannated Elixir of Cinchona.—No. 54. Elixir of Yerba Santa.—No. 81. Elixir of Pepsin.—No. 105. Compound Elixir of Taraxacum.—No. 337. Aromatic Spirit.—No. 338. Compound Spirit of Orange.—No. 340. Spirit of Curaçao.—No. 352. Syrup of Coffee.—No. 360. Aromatic Syrup of Yerba Santa.—No. 394. Detannated Tincture of Cinchona.—If these are kept in stock in reasonable quantities, most of the compound preparations contained in the Formulary may be prepared in a short time.

Regarding the system of weights and measures used in the work, the probable action of the Committee had been foreshadowed in

their last Report to the American Pharmaceutical Association, in which they expressed their conviction that all medicines that are prescribed by *measure*, had better be prepared by measure, or by weight *and* measure. The Committee is of the opinion that the working formulæ, either in a Pharmacopœia or in a Formulary, need not all be forced into one rigid, immutable, and uniform system of weights or of measures, but that a judicious and common-sense selection of one or another system, in different formulæ of the same work, may be perfectly legitimate, so long as those used in one and the same formula are practically commensurate with each other—the object, in all cases, being to obtain uniform and definite products, the relative strength of which will be immediately understood without special calculations. While, therefore, the system of *parts by weight* has been unreservedly admitted in the case of such preparations as are always, or at least preferably, made by weight (for instance, No. 2, Acidum Carbolicum Iodatum; No. 10, Boroglycerinum, etc., etc.), definite weights and measures have been used in the case of all those which are taken or administered by measure.

In the choice of the terms expressing the different denominations of weights and measures, some variation will be noticed, which is, however, introduced designedly. For instance, in No. 197 (Linimentum Opii Compositum), the first item is 1½ fluidounces; the second, 120 grains; the third, 4 fluidounces; the fourth, 180 minims; the fifth, 6 fluidounces, etc. The term "180 minims" was preferred to "3 fluidrachms," to break the monotony of the *fluid* terms, so as to diminish the risk of a mistake. And this method has been applied also in many other cases.

Regarding the nomenclature, the Committee has selected what appeared to them the most suitable and expressive titles. Probably many of the preparations in the work will never be ordered under their Latin names, as for instance, "Pulvis Hydrargyri Chloridi Mitis et Jalapæ" ("Calomel and Jalap"); yet it was deemed necessary to introduce such titles, in order to secure a homogeneous alphabetical arrangement.

In the selection of the particular process or working formula for each preparation, the Committee has proceeded with all the care that it was possible to bestow upon it. All suggestions, recommendations and criticisms were carefully and impartially considered, and, whenever possible, practically tested. It is not to be expected, however, that the Committee has always succeeded in making the best selection. Indeed, many of the formulæ will, no doubt, hereafter, require modification to make them more perfect, after a sufficient time has elapsed to fully test the merits of the different processes.

It was not within the province of the Committee to meddle with matters of which the medical practitioner or the therapeutist is the proper and competent judge. In most cases, it was sufficient to take a formula, just as it was already in existence, and to adopt it either entirely without change, or to restrict the modifications to the unessential features without affecting its therapeutic value, and merely with a view to improve its form. There are, however, a number of preparations in which more radical changes appeared desirable. In these cases the Committee availed itself of the advice of competent medical authorities, either by personal interviews or by correspondence.

The mission which this work is to fulfil can only be properly accomplished by the co-operation of the medical profession. It is, therefore, of the greatest importance that the members of this profession, throughout the country, be made acquainted with the existence, contents and objects of this book, and that, if the same be approved by them, as is confidently expected, they will consent to accept the preparations made in accordance with the formulæ contained therein, instead of designating any special maker's product.

In the execution of its task, the National Committee has been fortunate enough to avail itself of valuable advice and assistance, both voluntary and solicited, from many members of the profession and other sources. At the request of the Committee, the three Societies who had issued the pamphlet above spoken of, continued the several committees formerly appointed by them, and this increase of the working nucleus of the National Committee has been of the utmost importance to a successful termination of its allotted task, since without this assistance, it would have been physically impossible for it to perform the large number of experiments, and to prepare the many hundreds of specimens, necessary to decide on the merits of the various proposed formulæ. The gentlemen who have so generously assisted the Committee, and to whom special thanks are due, are: Messrs. Gustavus Balser, Julius Kalish, Edward L. Milhau, and Henry Schmid, from the College of Pharmacy of the City of New York; Messrs. Donald L. Cameron, Thomas D. McElhenie, J. P. Heyen, Louis E. Nicot, and Charles R. Paddock, of the Kings County Pharmaceutical Society; and Messrs. Theodore Louis, Charles E. P. Meumann, Gustavus Pfingsten, Gustavus Ramsperger, and Charles F. Schleussner, of the German Apothecaries' Society of the City of New York. Very valuable assistance has also been rendered to the Committee by the following gentlemen: Prof. Joseph P. Remington, Prof. J. M. Maisch, and Mr. Alfred B. Taylor of Philadelphia, Prof. J. U. Lloyd of Cincinnati, Dr. Robert G. Eccles of Brooklyn, Prof. Charles E. Munroe, U. S. N., of Newport,

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The Committee, on behalf of the American Pharmaceutical Association, now turns over its work to the public, and expresses the hope that it will be accepted as a standard and guide, whenever possible. In order that it may be rendered more perfect and complete, it is respectfully urged that any defects, omissions, or errors, be carefully noted, and that a list of these, as well as suggestions and propositions for a future revision, be sent to the Secretary of the American Pharmaceutical Association, or to any Formulary Committee that may hereafter be appointed.

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ERRATA.

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8—Form. 22. Cordiale Rubi Fructus is preferably prepared thus: "Percolate the powdered spices with Diluted Alcohol to obtain *two* (2) *pints* of tincture, and add to this the *three* (3) *pints* of Blackberry Juice. Then add *one hundred and twenty* (120) *grains* of Purified Talcum, set the mixture aside for twelve hours, or longer, if convenient, occasionally shaking, and filter. To the filtrate add the Syrup."

18—Form. 51. At the end of the note printed in italics read: "*and 1 grain of Pepsin (N. F.)*"

28—Form. 83. Read: "Syrup . . 3 fluidounces," instead of "4 fluidounces."

48—Form. 133. Read: "Menstruum I: Alcohol 9 fluidounces, Water 5 fluidounces, Glycerin 2 fluidounces. Menstruum II: Alcohol 9 fluidounces, Water, 7 fluidounces."

58—Form. 178. Read: "Sugar, in very fine powder, . . 640 parts."

81—Form. 235. At the end of the directions add: "Finally filter."

Form. 237. Read: "add the Bicarbonate of Sodium in divided portions."

84—Form. 244. Add the synonym: *Lotio Hydrargyri Flava* (Brit. Pharm.).

Form. 245. Add the synonym: *Lotio Hydrargyri Nigra* (Brit. Pharm.).

97—Form. 278. Read: "then transfer the mass to a strainer of Canton flannel, and add to the filtrate an equal volume of Alcohol. Collect the precipitate, drain it, and free it by pressure from as much of the adherent liquid as possible. Then spread it on shallow trays, and dry it by exposure to warm air, at a temperature not exceeding 40° C. (104° F.). Triturate the dry product, in a mortar, with *four* (4) *times* its weight of pure benzin; transfer the mass to a dry filter, and when the liquid has passed below the surface of the powder, follow it with enough fresh benzin to displace the retained portion. Lastly dry the powder between bibulous paper."

98—Form. 279. Line 6 from below, read: "should remain" for "may remain."

112—Form. 322 II. Read: "but so that it will retain its crystalline character."

Form. 323. Read: "Sugar, in very fine powder . . 290 parts."

130—Form. 368. Lines 17 and 16 from below, read: "replacing from time to time any Water lost by evaporation, and cautiously adding small portions of the Soda solution, until the magma is entirely dissolved."

139—Form. 389. In the note printed in italics, read: "*contains about ⅓ grain.*"

148—Form. 411. The words in the text "cut into thin slices and carefully freed from any adhering fine powder" apply to the Rhubarb, *before* it is weighed.

154—Form. 428. Among the ingredients insert "Syrup . . 1½ fluidounces." In the text read: "then gradually add, while stirring, the Syrup, previously mixed with *ten* (10) *fluidounces* of Angelica Wine, and afterwards the Tincture of Citro-Chloride of Iron."

A few discrepancies in nomenclature were noticed too late to be corrected, such as: Form. 21, "Indian Hemp," for "Indian Cannabis." Form. 23 and 70, "Extract of Liquorice," for "Extract of Glycyrrhiza;" Form. 359 and elsewhere, "Irish Moss" for "Chondrus." Form. 258 and 389, "Resin of Guaiac," for "Guaiac."—Form. 351. "Syrupus Actææ Compositus," should have been made a synonym, and the chief title should be "Syrupus Cimicifugæ Compositus."

THE

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OF

UNOFFICINAL PREPARATIONS.

OFFICINAL STANDARDS.

All ingredients entering into the formulas contained in this work, and which are officinal in the U. S. Pharmacopœia of 1880, are intended to comply with the requirements of that authority, unless otherwise directed. In some cases, particular attention has been drawn to this, by placing after the name of the ingredient the abbreviation "(U. S. P.)," or "(U. S. P. 1880)."

PARTS BY WEIGHT.

Whenever the quantities of the ingredients of a formula are given in *parts*, this is to be always understood as meaning *parts by weight.*

ABBREVIATIONS.

U. S. P. = United States Pharmacopœia.
N. F. = National Formulary.

NATIONAL FORMULARY

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1. ACETUM AROMATICUM.

Aromatic Vinegar.

Oil of Lavender	4 minims.
Oil of Rosemary	4 "
Oil of Juniper	4 "
Oil of Peppermint	4 "
Oil of Cinnamon (Cassia)	4 "
Oil of Lemon	8 "
Oil of Cloves	8 "
Alcohol	3 fluidounces.
Acetic Acid (U. S. P.)	3 "
Water	enough to make 16 "

Dissolve the Oils in the Alcohol, add the Acetic Acid, and lastly, enough Water to make *sixteen* (16) *fluidounces*. Warm the turbid mixture, during several hours, at a temperature not exceeding 70° C. (158° F.), taking care that it shall not suffer loss by evaporation. Then set it aside for a few days, occasionally agitating, and filter.

2. ACIDUM CARBOLICUM IODATUM.

Iodized Carbolic Acid.

Phenol Iodatum. Iodized Phenol.

Iodine, reduced to powder	20 parts.
Carbolic Acid	76 "
Glycerin	4 "

Introduce the Iodine into a flask, add the Carbolic Acid, previously melted, and the Glycerin, and digest the mixture at a gentle heat, frequently agitating, until the Iodine is dissolved.

Keep the product in glass-stoppered vials, in a dark place.

3. ACIDUM HYPOPHOSPHOROSUM DILUTUM.

Diluted Hypophosphorous Acid.

Hypophosphite of Potassium	208 parts.
Tartaric Acid	300 "
Distilled Water	588 "
Diluted Alcohol	600 "

Dissolve the Hypophosphite of Potassium in the Distilled Water, and the Tartaric Acid in the Diluted Alcohol. Mix the two solutions in a flask, cork the latter well, and put it aside in a cold place during twelve hours. Then carefully decant the liquid into a funnel, the neck of which contains a pellet of absorbent cotton, or, if necessary, pass the liquid through a filter, care being taken that it shall not suffer loss by evaporation. Weigh the filtrate, which contains *ten* (10) *per cent.* of hypophosphorous acid, in a tared capsule, and evaporate the alcohol by means of a water-bath, at a temperature not exceeding 60° C. (140° F.). Then allow the liquid to cool, and add enough Distilled Water to restore the original weight of the filtrate. Preserve the product in well-stoppered bottles.

Hypophosphorous Acid thus prepared contains 10 per cent. of absolute hypophosphorous acid (H_3PO_2), and has a specific gravity of 1.060 at 15° C. (59° F.) If the acid is required for immediate use, and the presence of alcohol is not objectionable, the mixture of the two solutions need be cooled only a short time, and the filtrate may be used at once. If a 50 per cent. acid is required, the concentration may be cautiously continued until the desired percentage has been attained. A 50 per cent. acid has a specific gravity of about 1.406 at 15° C. (59° F.)

4. ACIDUM METAPHOSPHORICUM DILUTUM.

Diluted Metaphosphoric Acid.

Acidum Phosphoricum Glaciale Dilutum. Diluted Glacial Phosphoric Acid.

Glacial Phosphoric Acid	780 grains.
Distilled Water	enough to make 16 fluidounces.

Dissolve the Acid in the Water, without heat.

This preparation should be kept in a cool and dark place, and should not be prepared in larger quantity than may be consumed within a few months.

Note.—The resulting product contains about 10 per cent. of metaphosphoric acid, provided the glacial acid was free from impurities. That which is sold in form of glassy lumps is usually of sufficient purity. The variety in form of round sticks is more or less impure, containing generally more than 15 per cent. of phosphate of sodium. If this variety is alone available, a proportionately larger quantity must be taken, to be determined, if time permits, by an assay of the free acid present. If no special accuracy is required, about 900 grains of this variety of the acid may be reckoned to be equivalent to the quantity directed in the above given formula.

Whenever Pyrophosphate of Iron (U. S. P.) forms one of the ingredients of a mixture containing Diluted Phosphoric Acid, the officinal tribasic acid is unsuitable, as it produces with the salt a gelatinous precipitate. If a clear mixture is required, the above preparation is to be used in place of the officinal. The same may be done when Phosphate of Iron (U. S. P.) is prescribed, though the precipitate caused by the officinal acid in this case is not as bulky, and under certain conditions may not form at all.

5. AQUA CHLOROFORMI.

Chloroform Water.

Purified Chloroform	30 minims.
Distilled Water	10 fluidounces.

Shake them together in a capacious bottle, until the Chloroform is dissolved, or until only a small quantity remains which cannot be dissolved by further agitation. Then filter in a covered funnel. Keep the product in well-stoppered bottles.

Note.—Chloroform water, aside from its medicinal properties, is an efficient preservative agent, and forms a good solvent, in place of water, for preparing solutions which require to be kept free from micro-organisms.

6. AQUA HAMAMELIDIS.

Hamamelis Water.

Witchhazel Water. Witchhazel Extract.

Hamamelis, shoots and twigs	10 pounds.
Water	20 pints.
Alcohol	1½ "

Place the Hamamelis in a still, add the Water and Alcohol, and allow the mixture to macerate during twenty-four hours. Distil *ten* (10) *pints* by applying direct heat, or preferably, by means of steam.

Note.—This preparation should be made only from the fresh young twigs of Hamamelis, which are collected for this purpose preferably, when the plant is in flower, in the late autumn of the year.

7. AQUA SEDATIVA.

Sedative Water.

Lotio Ammoniacalis Camphorata (Codex). *Eau Sédative de Raspail.*

Water of Ammonia	2 fluidounces.
Spirit of Camphor	90 minims.
Chloride of Sodium	1 troy ounce.
Water	enough to make 16 fluidounces.

Dissolve the Chloride of Sodium in about *eight* (8) *fluidounces* of Water, add the Water of Ammonia and Spirit of Camphor, and finally enough Water to make *sixteen* (16) *fluidounces*.

Shake the liquid when it is to be dispensed.

8. BALSAMUM TRAUMATICUM.

Traumatic Balsam.

Turlington's Balsam. Friar's Balsam.

Benzoin, in coarse powder	1½ troy ounces.
Storax	½ troy ounce.
Balsam of Tolu	½ " "
Balsam of Peru	120 grains.
Aloes, in coarse powder	60 "
Myrrh, in coarse powder	60 "
Angelica Root, in moderately coarse powder	30 "
Alcohol	16 fluidounces.

Macerate the substances with the Alcohol during ten days, frequently agitating; then filter.

Note.—The officinal *Tinctura Benzoini Composita* is a simplified preparation intended to replace the above compound.

9. BISMUTHI OXIDUM HYDRATUM.

Hydrated Oxide of Bismuth.

Subnitrate of Bismuth	6 troy ounces.
Nitric Acid	10 " "
Water of Ammonia	12 " "
Bicarbonate of Sodium	1 troy ounce.
Distilled Water	a sufficient quantity.

Mix the Subnitrate of Bismuth with *four* (4) *fluidounces* of Distilled Water in a quart flask, add *nine* (9) *troy ounces* of Nitric Acid, and promote the solution of the salt by agitation, and, if necessary, by a gentle heat. Pour the solution into *one* (1) *gallon* of Distilled Water previously acidulated with *one* (1) *troy ounce* of Nitric Acid, and filter the liquid through absorbent cotton. Mix the Water of Ammonia with *two* (2) *gallons* of Distilled Water in a glazed vessel of double that capacity, and pour into it, slowly and with constant stirring, the bismuth solution. Let the mixture stand during four hours so that the precipitate may subside, then pour off the supernatant liquid, and wash the precipitate four times more by decantation with Distilled Water, the Bicarbonate of Sodium being dissolved in the last wash-water. Pour the precipitate upon a wetted muslin strainer, and wash it with Distilled Water, until the washings run off tasteless. Transfer the strainer to a warm place, so that the precipitate may dry. Then rub the latter to powder, and keep it in well-stoppered bottles.

Note.—Hydrated Oxide of Bismuth is sometimes demanded in the form of a creamy mixture with water, under the name of *Cremor Bismuthi* or *Cream of Bismuth*. This may be prepared by triturating 20 parts of the Oxide with 80 parts of Water.

10. BOROGLYCERINUM.

Boroglycerin.

Glyceryl Borate. Boroglyceride.

Boric Acid, in powder	62 parts.
Glycerin	92 "

Heat the Glycerin in a tared porcelain capsule to a temperature not exceeding 150° C. (302° F.), and add the Boric Acid in portions, constantly stirring. When all is added and dissolved, continue the heat at the same temperature, frequently stirring, and breaking up the film which forms on the surface. When the mixture has become reduced to a weight of *one hundred* (100) *parts*, pour it out on a flat surface previously coated with a very small quantity of petrolatum, let it cool, cut it into pieces and transfer them immediately to bottles or jars, which should be well stoppered.

Note.—When a solution of Boroglycerin is required, it is preferable to prescribe, or to dispense the Glycerite of Boroglycerin (see *Glyceritum Boroglycerini*).

11. CAFFEINÆ CITRAS EFFERVESCENS.

Effervescent Citrate of Caffeine.

Caffeine	20 parts.
Citric Acid	20 "
Bicarbonate of Sodium	600 "
Tartaric Acid	540 "
Sugar, in very fine powder	620 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

If the compound is required in form of a granular powder, mix it with Alcohol to a soft paste, and rub this through a No. 20 tinned-iron sieve, or enamelled colander. Then dry it, and reduce it to a coarse, granular powder.

Ninety (90) grains (or about a heaped teaspoonful) of the above compound represent 1 grain of Caffeine.

12. CAFFEINÆ SODIO-BENZOAS.

Sodio-Benzoate of Caffeine.

Caffeine	50 parts.
Benzoate of Sodium	50 "
Alcohol	a sufficient quantity.

Triturate the Caffeine with the Benzoate of Sodium and a sufficient quantity of Alcohol to a smooth paste, and dry this by exposure in a moderately warm place. Rub the dry mass to powder, and keep it in well-stoppered bottles.

Note.—The product contains 50 per cent. of Caffeine, and is soluble in 2 parts of water.

13. CAFFEINÆ SODIO-SALICYLAS.

Sodio-Salicylate of Caffeine.

Caffeine	50 parts.
Salicylate of Sodium	50 "
Alcohol	a sufficient quantity.

Triturate the Caffeine with the Salicylate of Sodium and a sufficient quantity of Alcohol to a smooth paste, and dry this by exposure in a moderately warm place. Rub the dry mass to powder, and keep it in well-stoppered bottles.

Note.—The product contains 50 per cent. of Caffeine and is soluble in 2 parts of water.

14. CARBASUS CARBOLATA.

Carbolized Gauze.

Resin, in coarse powder	40 parts.
Castor Oil	5 "
Carbolic Acid	10 "
Alcohol	225 "
Gauze Muslin	a sufficient quantity.

Dissolve the Resin, Castor Oil and Carbolic Acid in the Alcohol. Then immerse in the mixture loosely-folded pieces of gauze muslin, allow them to become thoroughly saturated, then take them out and press out the excess of liquid, until the weight of the impregnated Gauze amounts to *one hundred and seventy* (170) *parts*, for every *one hundred* (100) *parts* of the original fabric. Spread out the pieces horizontally, and as soon as the Alcohol has nearly all evaporated, fold and wrap the pieces in paraffin paper, and preserve them in air-tight receptacles.

The impregnated Gauze, when dry, contains about 2.5 per cent. of Carbolic Acid.

Note.—The most suitable brands of gauze muslin for making carbolized or other antiseptic gauze, are those known in the market as "Stillwater," or "Lehigh E."

15. CARBASUS IODOFORMATA.

Iodoform Gauze.

Iodoform	10 parts.
Stronger Ether	40 "
Alcohol	40 "
Tincture of Benzoin	5 "
Glycerin	5 "
Gauze Muslin	a sufficient quantity.

Dissolve the Iodoform in the Stronger Ether, then add the Alcohol, Tincture of Benzoin, and Glycerin. Immerse in a weighed

quantity of this solution, contained in a suitable vessel, the exact amount of Gauze Muslin required to absorb the whole of it, to produce a product of a prescribed percentage of iodoform, work it about with a pestle so as to impregnate it uniformly; then take it out, and hang it up to dry, in a horizontal position, and in a dark place. Lastly, wrap it in paraffin paper and preserve it in air-tight receptacles.

Note.—To calculate the amount of muslin and of iodoform solution required to obtain a product approximately of any required percentage of iodoform, let x denote this required percentage. Then take of the above Iodoform Solution *ten* (10) *times* this quantity (or 10 x). Also multiply the required percentage (x) by *three* (3), divide the resulting product by *two* (2), and subtract the quotient from *one hundred* (100). The remainder represents the number of parts by weight of Gauze Muslin to be used. Regarding the most suitable kind of Gauze Muslin, see note to *Carbasus Carbolata.*

16. CERATUM CAMPHORÆ COMPOSITUM.

Compound Camphor Cerate.

Ceratum Camphoratum. Camphor Ice.

Camphor, in coarse powder	1½ troy ounces.
White Wax	2 " "
Castor Oil	4 " "
Spermaceti	7 " "
Carbolic Acid, liquefied by warming	10 minims.
Oil of Bitter Almond	6 minims.
Benzoic Acid	60 grains.

Melt the White Wax and Spermaceti on a water-bath, add the Castor Oil, and afterwards the Camphor, and continue heating and stirring until the Camphor is dissolved. Then withdraw the heat, cover the vessel, and when the mixture has somewhat cooled, add the remaining ingredients, and thoroughly incorporate them by stirring. Lastly, pour the Cerate into suitable moulds.

17. CHLORAL CAMPHORATUM.

Camphorated Chloral.

Chloral et Camphora. Chloral and Camphor.

Chloral	50 parts.
Camphor	50 "

Mix them by agitation in a bottle, or by trituration in a warm mortar, until they are liquefied and combined.

18. COLLODIUM IODATUM.

Iodized Collodion.

Iodine, reduced to powder	5 parts.
Flexible Collodion	95 "

Introduce the Iodine into a bottle, add the Flexible Collodion and agitate until the Iodine is dissolved.

19. COLLODIUM IODOFORMATUM.

Iodoform Collodion.

Iodoform	5 parts.
Flexible Collodion	95 "

Dissolve the Iodoform in the Flexible Collodion by agitation.

20. COLLODIUM TIGLII.

Croton Oil Collodion.

Croton Oil	10 parts.
Flexible Collodion	90 "

Mix them.

21. COLLODIUM SALICYLATUM COMPOSITUM.

Compound Salicylated Collodion.

Corn Collodion.

Salicylic Acid	11 parts.
Extract of Indian Hemp	2 "
Alcohol	10 "
Flexible Collodion	enough to make 100 parts.

Dissolve the Extract of Indian Hemp in the Alcohol, and the Salicylic Acid in about *fifty* (50) *parts* of Flexible Collodion contained in a tared bottle. Then add the former solution to the latter, and finally add enough Flexible Collodion to make *one hundred* (100) *parts*.

22. CORDIALE RUBI FRUCTUS.

Blackberry Cordial.

Blackberry Juice	3 pints.
Cinnamon, in coarse powder	2 troy ounces.
Cloves, in coarse powder	½ troy ounce.
Nutmeg, in coarse powder	½ " "
Diluted Alcohol	2 pints.
Syrup	3 "

Digest the Spices with the Diluted Alcohol for eight days; then mix with the Blackberry Juice and strain; lastly, add the Syrup.

23. DECOCTUM ALOES COMPOSITUM.

Compound Decoction of Aloes.

Aqueous Extract of Aloes	120 grains.
Myrrh	90 "
Saffron	90 "
Carbonate of Potassium	60 "
Extract of Glycyrrhiza, in powder	1 troy ounce.
Compound Tincture of Cardamom	8 fluidounces.
Water	enough to make 30 "

Reduce the Myrrh and Extract of Aloes to a coarse powder, mix

this with the Carbonate of Potassium and Extract of Liquorice in a suitable covered vessel, and pour on *twenty* (20) *fluidounces* of Water; boil for five minutes, and add the Saffron. When cool, add the Compound Tincture of Cardamom, and allow the mixture to macerate for two hours; then filter through flannel, and add enough Water to make the product measure *thirty* (30) *fluidounces*.

This preparation should be freshly made when wanted for use.

24. ELIXIR ACIDI SALICYLICI.

Elixir of Salicylic Acid.

Salicylic Acid	640 grains.
Citrate of Potassium	2 troy ounces.
Glycerin	8 fluidounces.
Aromatic Elixir	enough to make 16 "

Dissolve the Citrate of Potassium in the Glycerin with the aid of a gentle heat. Add the Salicylic Acid, and continue the heat until it is dissolved. Then add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*.

This Elixir should be freshly made when wanted for use.

Each fluidrachm contains 5 grains of Salicylic Acid.

25. ELIXIR ADJUVANS.

Adjuvant Elixir.

Sweet Orange Peel, recently dried	2 troy ounces.
Wild Cherry	4 " "
Glycyrrhiza, Russian, peeled	8 " "
Coriander	1 troy ounce.
Caraway	1 " "
Alcohol,	
Water	each, a sufficient quantity.
Syrup	enough to make 1 gallon.

Grind the Wild Cherry to a moderately coarse (No. 40) powder, moisten it with *four* (4) *fluidounces* of Water and set it aside for twelve hours. Reduce the other solids also to a moderately coarse (No. 40) powder, mix this intimately with the Wild Cherry, and having mixed *one* (1) *volume* of Alcohol with *two* (2) *volumes* of Water, moisten the powder with *four* (4) *fluidounces* of the mixture, and pack tightly in a percolator. Then gradually pour menstruum on top until *ninety-six* (96) *fluidounces* of percolate are obtained. Mix this with *thirty-two* (32) *fluidounces* of Syrup, and filter.

Note.—This preparation is chiefly intended as a vehicle, particularly for acrid or saline remedies.

26. ELIXIR AMMONII BROMIDI.

Elixir of Bromide of Ammonium.

Bromide of Ammonium	640 grains.
Citric Acid	30 "
Adjuvant Elixir	enough to make 16 fluidounces.

Dissolve the Bromide of Ammonium and the Citric Acid in about *eight* (8) *fluidounces* of Adjuvant Elixir, by agitation. Then add enough Adjuvant Elixir to make *sixteen* (16) *fluidounces*, and filter, if necessary.

Each fluidrachm contains 5 grains of Bromide of Ammonium.

27. ELIXIR AMMONII VALERIANATIS.

Elixir of Valerianate of Ammonium.

Valerianate of Ammonium	256 grains.
Water of Ammonia	a sufficient quantity.
Chloroform	6 minims.
Tincture of Vanilla	120 "
Compound Tincture of Cudbear	120 "
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Valerianate of Ammonium in about *twelve* (12) *fluidounces* of Aromatic Elixir, in a graduated vessel, and add enough Water of Ammonia, in drops, until a faint excess of it is perceptible in the liquid. Then add the Chloroform, Tincture of Vanilla and Compound Tincture of Cudbear, and finally, enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm contains 2 grains of Valerianate of Ammonium.

Note.—Should the odor of valerianic acid become perceptible after the Elixir has been kept for some time, it may be overcome by slightly supersaturating with Water of Ammonia.

28. ELIXIR AMMONII VALERIANATIS ET QUININAE.

Elixir of Valerianate of Ammonium and of Quinine.

Hydrochlorate of Quinine	32 grains.
Elixir of Valerianate of Ammonium	16 fluidounces.

Dissolve the Hydrochlorate of Quinine in the Elixir by agitation, and, if necessary, by occasionally immersing the bottle containing the ingredients in hot water, until solution has been effected. Finally filter.

Each fluidrachm contains ¼ grain of Hydrochlorate of Quinine and 2 grains of Valerianate of Ammonium.

29. ELIXIR ANISI.

Elixir of Anise.

Aniseed Cordial.

Anethol	25 minims.
Oil of Fennel	5 "
Oil of Bitter Almond	1 drop.
Deodorized Alcohol	4 fluidounces.
Syrup	10 "
Water	2 "
Purified Talcum	120 grains.

Mix the Anethol and the Oils with the Deodorized Alcohol, add the Syrup and Water, and set the mixture aside for twelve hours. Then mix it intimately with the Purified Talcum, and filter it through a wetted filter, returning the first portions of the filtrate until it runs through clear.

Note.—This Elixir is liable to become cloudy, from separation of essential oils, when it is exposed to a temperature lower than that at which it has been filtered. In general, it is recommended that it be cooled to, and filtered at a temperature of about 15° C. (59° F.). In the northern sections of this country, or in winter time, it should be cooled to a proportionately lower temperature, previous to filtration.

Anethol is the stearopten of oil of anise, and possesses a finer and purer aroma and taste than any commercial variety of oil of anise. If it cannot be readily obtained, the so-called Saxon oil of anise may be substituted for it. Oil of star-anise which is usually supplied by dealers when "oil of anise" without specification is ordered, does not answer well for this purpose. The oil of fennel should be that from the seed ("sweet"), and not that from the chaff.

30. ELIXIR APII GRAVEOLENTIS COMPOSITUM.

Compound Elixir of Celery.

Fluid Extract of Celery Root	1 fluidounce.
Fluid Extract of Erythroxylon	1 "
Fluid Extract of Kola	1 "
Fluid Extract of Viburnum Prunifolium	1 "
Alcohol	2 fluidounces.
Aromatic Elixir	enough to make 16 "

Mix the Alcohol with *four* (4) *fluidounces* of Aromatic Elixir. To this add the Fluid Extract of Celery Root in several portions, shaking after each addition, and afterwards the other Fluid Extracts. Finally add enough Aromatic Elixir to make *sixteen* (16) *fluidounces;* allow the mixture to stand twenty-four hours, and filter.

Note.—If this preparation is prescribed or quoted under its Latin title, it is recommended that the full title be given, so that the word "Apii" may not be mistaken for "Opii."

31. ELIXIR AROMATICUM.

Aromatic Elixir.

Aromatic Spirit	16 fluidounces.
Syrup	24 "
Water	24 "
Purified Talcum	1 troy ounce.

Mix the Aromatic Spirit with *twelve* (12) *fluidounces* of Syrup, and add the Water. Incorporate the Purified Talcum thoroughly with the mixture, set the latter aside during a few days, if possible, occasionally agitating, then stir it well, and filter it through a wetted filter, returning the first portions of the filtrate until it runs through clear. Finally mix the filtrate with the remainder of the Syrup.

Note.—When this Elixir is to be used in preparations containing *iron*, the Aromatic Spirit to be used in its preparation should be that made from the essential oils (see *Spiritus Aromaticus*).

If it is desired to color this Elixir, this may be effected by the addition of *two* (2) *fluidrachms* of Compound Tincture of Cudbear to each pint.

32. ELIXIR BISMUTHI.

Elixir of Bismuth.

Citrate of Bismuth and Ammonium	256 grains.
Water, hot	1 fluidounce.
Water of Ammonia	a sufficient quantity.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Citrate of Bismuth and Ammonium in the hot Water, allow the solution to stand until any undissolved matter has subsided; then decant the clear liquid, and add to the residue just enough Water of Ammonia to dissolve it. Then mix it with the decanted portion and add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm represents 2 grains of Citrate of Bismuth and Ammonium.

33. ELIXIR BUCHU.

Elixir of Buchu.

Fluid Extract of Buchu	2 fluidounces.
Alcohol	1 fluidounce.
Syrup	1 "
Purified Talcum	120 grains.
Adjuvant Elixir	enough to make 16 fluidounces.

Mix the Fluid Extract of Buchu with the Alcohol, then add *twelve* (12) *fluidounces* of Adjuvant Elixir, and the Syrup. Incorporate with it the Purified Talcum, and filter. Finally, pass enough Adjuvant Elixir through the filter to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents about 7½ grains of Buchu.

34. ELIXIR BUCHU COMPOSITUM.

Compound Elixir of Buchu.

Compound Fluid Extract of Buchu	4 fluidounces.
Alcohol	1 fluidounce.
Syrup	1 "
Purified Talcum	120 grains.
Adjuvant Elixir	enough to make 16 fluidounces.

Mix the Compound Fluid Extract of Buchu with the Alcohol, then add *eight* (8) *fluidounces* of Adjuvant Elixir, and the Syrup. Incorporate with it the Purified Talcum, and filter. Finally, pass enough Adjuvant Elixir through the filter to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents 15 minims of Compound Fluid Extract of Buchu.

35. ELIXIR BUCHU ET POTASSII ACETATIS.

Elixir of Buchu and Acetate of Potassium.

Acetate of Potassium	640 grains.
Elixir of Buchu	enough to make 16 fluidounces.

Dissolve the Acetate of Potassium in about *twelve* (12) *fluidounces* of Elixir of Buchu, filter, if necessary, and add enough Elixir of Buchu to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents 5 grains of Acetate of Potassium and about 7 grains of Buchu.

36. ELIXIR CAFFEINÆ.

Elixir of Caffeine.

Caffeine	128 grains.
Diluted Hydrobromic Acid (U. S. P.)	32 "
Syrup of Coffee	4 fluidounces.
Aromatic Elixir	enough to make 16 "

Rub the Caffeine, in a mortar, with the Diluted Hydrobromic Acid and about *two* (2) *fluidounces* of Aromatic Elixir, until solution is effected. Then add the Syrup of Coffee, and lastly, enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm contains 1 grain of Caffeine.

37. ELIXIR CALCII BROMIDI.

Elixir of Bromide of Calcium.

Bromide of Calcium	640 grains.
Citric Acid	30 "
Adjuvant Elixir	enough to make 16 fluidounces.

Dissolve the Bromide of Calcium and the Citric Acid in about

twelve (12) *fluidounces* of Adjuvant Elixir by agitation. Then add enough Adjuvant Elixir to make *sixteen* (16) *fluidounces*, and filter, if necessary.

Each fluidrachm contains 5 grains of Bromide of Calcium.

38. ELIXIR CALCII HYPOPHOSPHITIS.

Elixir of Hypophosphite of Calcium.

Hypophosphite of Calcium	256 grains.
Citric Acid	30 "
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Hypophosphite of Calcium in *fourteen* (14) *fluidounces* of Aromatic Elixir, and filter. Dissolve the Citric Acid in the filtrate and pass enough Aromatic Elixir through the filter to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains 2 grains of Hypophosphite of Calcium.

39. ELIXIR CALCII LACTOPHOSPHATIS.

Elixir of Lactophosphate of Calcium.

Lactate of Calcium	128 grains.
Phosphoric Acid (U. S. P. 50%)	128 minims.
Water	1 fluidounce.
Syrup	1 "
Aromatic Elixir	enough to make 16 fluidounces.

Triturate the Lactate of Calcium with the Phosphoric Acid, the Water, and the Syrup, until the salt is dissolved. Then add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm represents 1 grain of Lactate of Calcium, or about 1½ grains of so-called Lactophosphate of Calcium.

40. ELIXIR CATHARTICUM COMPOSITUM.

Compound Cathartic Elixir.

Fluid Extract of Senna	2 fluidounces.
Fluid Extract of Podophyllum	1 fluidounce.
Fluid Extract of Leptandra	360 minims.
Fluid Extract of Jalap	360 "
Tartrate of Potassium and Sodium	2 troy ounces.
Bicarbonate of Sodium	120 grains.
Compound Elixir of Taraxacum	4 fluidounces.
Elixir of Glycyrrhiza	enough to make 16 "

Mix the liquids, add the salts, and dissolve them by agitation.

The product should not be filtered, and should be shaken up whenever any of it is dispensed.

The average dose for an adult is 2 fluidrachms.

41. ELIXIR CHLOROFORMI COMPOSITUM.

Compound Elixir of Chloroform.

Chloroform	3 fluidounces.
Tincture of Opium	3 "
Spirit of Camphor	3 "
Aromatic Spirit of Ammonia	3 "
Alcohol	3 "
Oil of Cinnamon (Cassia)	40 minims.
Water	enough to make 16 fluidounces.

Mix the Chloroform with the Alcohol, then add the Oil of Cinnamon, Aromatic Spirit of Ammonia, Spirit of Camphor, Tincture of Opium, and lastly, enough Water to make *sixteen* (16) *fluidounces*. Allow the mixture to stand a few hours, and filter in a well-covered funnel.

Each fluidrachm represents about 1 grain of Opium and 11 minims of Chloroform.

Note.—This preparation is called Chloroform Paregoric in some sections of the country. It is recommended that this title be abandoned, to prevent confusion with the officinal Paregoric or *Tinctura Opii Camphorata.*

42. ELIXIR CINCHONÆ.

Elixir of Cinchona.

Elixir of Calisaya.

Tincture of Cinchona (U. S. P. 1880)	2½ fluidounces.
Aromatic Spirit	2 "
Syrup	6 "
Purified Talcum	120 grains.
Water	enough to make 16 fluidounces.

Mix the liquids, allow the mixture to stand for twenty-four hours or longer if convenient, then incorporate the Purified Talcum, and filter through a wetted filter, returning the first portions of the filtrate, until it runs through clear.

Each fluidounce represents about 14 grains of Yellow Cinchona.

Note.—When Elixir of Cinchona is directed in combination with preparations of iron, the *Elixir Cinchonæ Detannatum* should be used in place of the above preparation.

43. ELIXIR CINCHONÆ ET HYPOPHOSPHITUM.

Elixir of Cinchona and Hypophosphites.

Elixir of Calisaya and Hypophosphites.

Hypophosphite of Calcium	128 grains.
Hypophosphite of Sodium	128 "
Citric Acid	30 "
Water	2 fluidounces.
Elixir of Cinchona	enough to make 16 "

Dissolve the Hypophosphites and the Citric Acid in the Water,

add enough Elixir of Cinchona to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm contains 1 grain, each, of the Hypophosphites of Calcium and Sodium.

44. ELIXIR CINCHONÆ DETANNATUM.

Detannated Elixir of Cinchona.

Detannated Elixir of Calisaya.

Detannated Tincture of Cinchona	2½ fluidounces.
Aromatic Spirit	2 "
Syrup	6 "
Purified Talcum	120 grains.
Water	enough to make 16 fluidounces.

Mix the liquids, allow the mixture to stand twenty-four hours or longer if convenient, then incorporate the Purified Talcum, and filter through a wetted filter, returning the first portions of the filtrate, until it runs through clear.

Each fluidounce represents about 14 grains of Yellow Cinchona.

Note.—This preparation is to be used, when *Elixir Cinchonæ* is directed in combination with preparations of *iron.*

When Detannated Elixir of Cinchona is not available, and the preparation, of which it forms a constituent, is required at once, an equivalent quantity of Compound Elixir of Quinine, colored by the addition of 120 minims of Compound Tincture of Cudbear to each pint, may be substituted for it.

45. ELIXIR CINCHONÆ ET FERRI.

Elixir of Cinchona and Iron.

Elixir of Calisaya and Iron. Ferrated Elixir of Calisaya.

Phosphate of Iron (U. S. P. 1880)	256 grains.
Water, boiling	1 fluidounce.
Detannated Elixir of Cinchona	enough to make 16 fluidounces.

Dissolve the Phosphate of Iron in the boiling Water, then add enough Detannated Elixir of Cinchona to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm contains 2 grains of Phosphate of Iron.

46. ELIXIR CINCHONÆ, FERRI, BISMUTHI ET STRYCHNINÆ.

Elixir of Cinchona, Iron, Bismuth and Strychnine.

Elixir of Calisaya, Iron, Bismuth and Strychnine.

Citrate of Bismuth and Ammonium	128 grains.
Sulphate of Strychnine	1¼ "
Water, hot	a sufficient quantity.
Elixir of Cinchona and Iron	enough to make 16 fluidounces.

Dissolve the Citrate of Bismuth and Ammonium in *one-half* (½)

fluidounce of hot Water; allow the solution to stand until any undissolved matter has subsided; then decant the clear liquid, and add to the residue enough Water of Ammonia to dissolve it, carefully avoiding an excess. Dissolve the Sulphate of Strychnine in *one* (1) *fluidrachm* of hot Water, and having mixed the two solutions, add enough Elixir of Cinchona and Iron to make *sixteen* (16) *fluidounces*. Let the mixture stand twenty-four hours, if convenient, and filter.

Each fluidrachm contains 1 grain of Citrate of Bismuth and Ammonium; $\frac{1}{100}$ grain of Sulphate of Strychnine, and nearly 2 grains of Phosphate of Iron.

47. ELIXIR CINCHONÆ, FERRI ET BISMUTHI.

Elixir of Cinchona, Iron and Bismuth.

Elixir of Calisaya, Iron and Bismuth.

Citrate of Bismuth and Ammonium	128 grains.
Water, hot	½ fluidounce.
Elixir of Cinchona and Iron	enough to make 16 fluidounces.

Dissolve the Citrate of Bismuth and Ammonium in the hot Water, allow the solution to stand until any undissolved matter has subsided; then decant the clear liquid, and add to the residue enough Water of Ammonia to dissolve it, carefully avoiding an excess. Then mix the solution with enough Elixir of Cinchona and Iron to make *sixteen* (16) *fluidounces*. Let the mixture stand twenty-four hours, if convenient, and filter.

Each fluidrachm contains 1 grain of Citrate of Bismuth and Ammonium, and nearly 2 grains of Phosphate of Iron.

48. ELIXIR CINCHONÆ, FERRI, ET CALCII LACTOPHOSPHATIS.

Elixir of Cinchona, Iron and Lactophosphate of Calcium.

Elixir of Calisaya, Iron and Lactophosphate of Lime.

Lactate of Calcium	64 grains.
Phosphoric Acid (50%)	64 minims.
Water of Ammonia	½ fluidounce.
Citric Acid	120 grains.
Elixir of Cinchona and Iron	enough to make 16 fluidounces.

Dissolve the Lactate of Calcium in *seven* (7) *fluidounces* of Elixir of Cinchona and Iron, with the aid of the Phosphoric Acid. Then add the Citric Acid, and when this is dissolved, the Water of Ammonia. Finally add enough Elixir of Cinchona and Iron to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm contains ½ grain of Lactate of Calcium (or about ¾ grain of so-called Lactophosphate of Calcium), and nearly 2 grains of Phosphate of Iron.

49. ELIXIR CINCHONÆ, FERRI ET PEPSINI.

Elixir of Cinchona, Iron and Pepsin.

Elixir of Calisaya, Iron and Pepsin.

Pepsin (N. F.)	128 grains.
Hydrochloric Acid	30 minims.
Water	3 fluidounces.
Elixir of Cinchona and Iron	enough to make 16 "

Dissolve the Pepsin in the Water mixed with the Hydrochloric Acid; then add enough Elixir of Cinchona and Iron to make *sixteen* (16) *fluidounces*. Let the mixture stand a few days, if convenient, and filter.

Each fluidrachm represents 1 grain of Pepsin (N. F.), and about 1½ grains of Phosphate of Iron.

50. ELIXIR CINCHONÆ, FERRI ET STRYCHNINÆ.

Elixir of Cinchona, Iron and Strychnine.

Elixir of Calisaya, Iron and Strychnine.

Sulphate of Strychnine	1¼ grains.
Water	120 minims.
Elixir of Cinchona and Iron	enough to make 16 fluidounces.

Dissolve the Sulphate of Strychnine in the Water and add enough Elixir of Cinchona and Iron to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains $\frac{1}{100}$ grain of Sulphate of Strychnine, and about 2 grains of Phosphate of Iron.

51. ELIXIR CINCHONÆ, PEPSINI ET STRYCHNINÆ.

Elixir of Cinchona, Pepsin and Strychnine.

Elixir of Calisaya, Pepsin and Strychnine.

Sulphate of Quinine	16 grains.
Sulphate of Cinchonine	8 "
Sulphate of Strychnine	1¼ "
Elixir of Pepsin	16 fluidounces.

Dissolve the alkaloidal salts in the Elixir, and filter, if necessary.

Each fluidrachm represents small quantities of Cinchona Alkaloids, $\frac{1}{100}$ grain of Sulphate of Strychnine, and 1 grain of Pepsin.

52. ELIXIR CORYDALIS COMPOSITUM.

Compound Elixir of Corydalis.

Fluid Extract of Corydalis	1 fluidounce.
Fluid Extract of Stillingia	1 "
Fluid Extract of Xanthoxylum	½ "
Fluid Extract of Iris	1½ fluidounces.
Alcohol	2 "
Iodide of Potassium	384 grains.
Aromatic Elixir	enough to make 16 fluidounces.

Mix the Alcohol with the Fluid Extracts, dissolve the Iodide of

Potassium, in the mixture, and add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Let the mixture stand a few days, if convenient, and filter.

Each fluidrachm contains 3 grains of Iodide of Potassium, and small quantities of the several Fluid Extracts.

53. ELIXIR CURASSAO.

Elixir of Curaçao.

Curaçao Cordial.

Spirit of Curaçao	120 minims.
Orris Root, in fine powder	30 grains.
Deodorized Alcohol	4 fluidounces.
Citric Acid	50 grains.
Syrup	8 fluidounces.
Purified Talcum	120 grains.
Water	enough to make 16 fluidounces.

Mix the Spirit of Curaçao with the Alcohol, add the Orris Root, the Purified Talcum, and *three* (3) *fluidounces* of Water. Allow the mixture to stand twelve hours, occasionally agitating; then pour it on a wetted filter, returning the first portions of the filtrate until it runs through clear, and pass enough Water through the filter to make the filtrate measure *eight* (8) *fluidounces*. In this dissolve the Citric Acid, and finally add the Syrup.

54. ELIXIR ERIODICTYI AROMATICUM.

Aromatic Elixir of Eriodictyon.

Aromatic Elixir of Yerba Santa; Elixir Corrigens.

Fluid Extract of Eriodictyon	1 fluidounce.
Syrup	8 fluidounces.
Pumice, in fine powder	½ troy ounce.
Carbonate of Magnesium	80 grains.
Compound Elixir of Taraxacum	enough to make 16 fluidounces.

Mix *seven* (7) *fluidounces* of Compound Elixir of Taraxacum with the Syrup and Pumice, then add the Fluid Extract, and mix the whole thoroughly by agitation. Shake the mixture occasionally during two hours, then allow it to settle, and carefully decant the liquid into a funnel, the neck of which contains a small pellet of absorbent cotton. Afterwards add the dregs and allow them to drain. To the filtrate add the Carbonate of Magnesium and shake occasionally during several hours. Let the mixture stand at rest during twelve hours, if convenient, then decant the liquid and filter it through paper. To the filtrate add enough Compound Elixir of Taraxacum, if necessary, to make *sixteen* (16) *fluidounces*.

Note.—This preparation is chiefly intended as a vehicle for Quinine and other bitter remedies.

55. ELIXIR ERYTHROXYLI.

Elixir of Erythroxylon.

Elixir of Coca.

Fluid Extract of Erythroxylon	2 fluidounces.
Alcohol	1 fluidounce.
Syrup	2 fluidounces.
Tincture of Vanilla	120 minims.
Purified Talcum	120 grains.
Aromatic Elixir	enough to make 16 fluidounces.

Mix the Fluid Extract with the Alcohol, the Syrup and *ten* (10) *fluidounces* of Aromatic Elixir, add the Purified Talcum and incorporate the latter thoroughly. Let the mixture stand during forty-eight hours, if convenient, shaking occasionally; then filter, add the Tincture of Vanilla to the filtrate, and pass enough Aromatic Elixir through the filter to make the product measure *sixteen* (16) *fluidounces*.

Each fluidrachm represents 7½ grains of Erythroxylon (Coca).

56. ELIXIR ERYTHROXYLI ET GUARANÆ.

Elixir of Erythroxylon and Guarana.

Elixir of Coca and Guarana.

Fluid Extract of Erythroxylon	2 fluidounces.
Fluid Extract of Guarana	2 "
Purified Talcum	120 grains.
Compound Elixir of Taraxacum	12 fluidounces.

Mix the liquids, and thoroughly incorporate the Purified Talcum with the mixture. Let it stand during forty-eight hours, if convenient, occasionally agitating, then filter.

Each fluidrachm represents 7½ grains each of Erythroxylon (Coca) and Guarana.

57. ELIXIR EUCALYPTI.

Elixir of Eucalyptus.

Fluid Extract of Eucalyptus	2 fluidounces.
Alcohol	2 "
Carbonate of Magnesium	120 grains.
Syrup of Coffee	6 fluidounces.
Compound Elixir of Taraxacum	6 "

Mix the Fluid Extract with the Alcohol, then add the other ingredients, shake the mixture occasionally during forty-eight hours, and filter.

Each fluidrachm represents 7½ grains of Eucalyptus.

58. ELIXIR EUONYMI.

Elixir of Euonymus.

Elixir of Wahoo.

Fluid Extract of Euonymus	2½	fluidounces.
Water	2	"
Syrup of Coffee	2	"
Compound Elixir of Taraxacum	9½	"

Mix them, let the mixture stand forty-eight hours, and filter.

Each fluidrachm represents about 9½ grains of Euonymus.

59. ELIXIR FERRI HYPOPHOSPHITIS.

Elixir of Hypophosphite of Iron.

Solution of Hypophosphite of Iron	768 minims.
Aromatic Elixir	enough to make 16 fluidounces.

Mix the Solution of Hypophosphite of Iron with enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Allow the mixture to stand a few days in a cool place, and filter, if necessary.

Each fluidrachm contains 1 grain of Hypophosphite of Iron (ferric).

60. ELIXIR FERRI LACTATIS.

Elixir of Lactate of Iron.

Lactate of Iron, in crusts	128 grains.
Citrate of Potassium	384 "
Aromatic Elixir	enough to make 16 fluidounces.

Triturate the Lactate of Iron with the Citrate of Potassium and about *four* (4) *fluidounces* of Aromatic Elixir, gradually added, until solution has been effected. Then add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm contains 1 grain of Lactate of Iron.

61. ELIXIR FERRI PHOSPHATIS.

Elixir of Phosphate of Iron.

Phosphate of Iron (U. S. P. 1880)	256 grains.
Water	1 fluidounce.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Phosphate of Iron in the Water with the aid of heat; then mix this solution with a sufficient quantity of Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm contains 2 grains of Phosphate of Iron.

62. ELIXIR FERRI PHOSPHATIS, CINCHONIDINÆ ET STRYCHNINÆ.

Elixir of Phosphate of Iron, Cinchonidine and Strychnine.

Phosphate of Iron (U. S. P. 1880)	256 grains.
Citrate of Potassium	32 "
Sulphate of Cinchonidine	128 "
Sulphate of Strychnine	1½ "
Alcohol	1 fluidounce.
Water	360 minims.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Phosphate of Iron and Citrate of Potassium in the Water, using heat, if necessary. To *twelve* (12) *fluidounces* of Aromatic Elixir, contained in a bottle, add the Alcohol, and afterwards the alkaloidal salts, and agitate until the latter are dissolved, or nearly so. Then mix the two solutions, and, having shaken the mixture, add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Finally, filter.

Each fluidrachm contains 2 grains of Phosphate of Iron, 1 grain of Sulphate of Cinchonidine, and $\frac{1}{100}$ grain of Sulphate of Strychnine.

Note.—When this Elixir is mixed with water, it will become cloudy or opaque through the separation of some of its constituents.

63. ELIXIR FERRI PHOSPHATIS, QUININÆ ET STRYCHNINÆ.

Elixir of Phosphate of Iron, Quinine, and Strychnine.

Phosphate of Iron (U. S. P. 1880)	256 grains.
Citrate of Potassium	32 "
Hydrochlorate of Quinine	128 "
Sulphate of Strychnine	1½ "
Alcohol	1 fluidounce.
Water	360 minims.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Phosphate of Iron and Citrate of Potassium in the Water, using heat, if necessary. To *twelve* (12) *fluidounces* of Aromatic Elixir, contained in a bottle, add the Alcohol, and afterwards the alkaloidal salts, and agitate until the latter are dissolved, or nearly so. Then mix the two solutions, and, having shaken the mixture, add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Finally, filter.

Each fluidrachm contains 2 grains of Phosphate of Iron, 1 grain of Hydrochlorate of Quinine, and $\frac{1}{100}$ grain of Sulphate of Strychnine.

Note.—When this Elixir is mixed with water, it will become cloudy or opaque through the separation of some of its constituents.

64. ELIXIR FERRI PYROPHOSPHATIS.

Elixir of Pyrophosphate of Iron.

Pyrophosphate of Iron (U. S. P. 1880)	256 grains.
Water	1 fluidounce.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Pyrophosphate of Iron in the Water, and add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm contains 2 grains of Pyrophosphate of Iron.

65. ELIXIR FERRI, QUININÆ ET STRYCHNINÆ.

Elixir of Iron, Quinine and Strychnine.

Tincture of Citro-Chloride of Iron	2 fluidounces.
Sulphate of Quinine	128 grains.
Sulphate of Strychnine	1½ "
Alcohol	½ fluidounce.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the alkaloidal salts in about *twelve* (12) *fluidounces* of Aromatic Elixir, then add the Tincture and the Alcohol, and finally, enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm represents about 1 grain of Ferric Chloride, 1 grain of Sulphate of Quinine, and $\frac{1}{100}$ grain of Sulphate of Strychnine.

66. ELIXIR FRANGULÆ.

Elixir of Frangula.

Elixir of Buckthorn.

Fluid Extract of Frangula (U. S. P.)	4 fluidounces.
Alcohol	1 fluidounce.
Compound Elixir of Taraxacum	4 fluidounces.
Aromatic Elixir	7 "

Mix them, allow the mixture to stand during forty-eight hours, if convenient, and filter.

Each fluidrachm represents 15 grains of Frangula.

67. ELIXIR GENTIANÆ.

Elixir of Gentian.

Extract of Gentian (U. S. P.)	70 grains.
Aromatic Spirit	180 minims.
Tincture of Vanilla	120 "
Syrup	1 fluidounce.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Extract of Gentian in about *two* (2) *fluidounces* of

Aromatic Elixir, next add the Syrup, Aromatic Spirit, and Tincture of Vanilla, and lastly, enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm represents about 2 grains of Gentian.

68. ELIXIR GENTIANÆ ET FERRI PHOSPHATIS.

Elixir of Gentian and Phosphate of Iron.

Elixir Gentianæ Ferratum. Ferrated Elixir of Gentian. Ferrophosphated Elixir of Gentian.

Phosphate of Iron (U. S. P. 1880)	128 grains.
Water	½ fluidounce.
Elixir of Gentian	enough to make 16 fluidounces.

Dissolve the Phosphate of Iron in the Water with the aid of heat, and add enough Elixir of Gentian to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm represents 1 grain of Phosphate of Iron, and nearly 2 grains of Gentian.

69. ELIXIR GENTIANÆ CUM TINCTURA FERRI CHLORIDI.

Elixir of Gentian with Tincture of Chloride of Iron.

Tincture of Citro-Chloride of Iron	640 minims.
Elixir of Gentian	enough to make 16 fluidounces.

Mix the Tincture of Citro-Chloride of Iron with enough Elixir of Gentian to make *sixteen* (16) *fluidounces*, and filter, if necessary.

Each fluidrachm represents about ⅔ grain of Ferric Chloride, and nearly 2 grains of Gentian.

70. ELIXIR GLYCYRRHIZÆ.

Elixir of Glycyrrhiza.

Elixir of Liquorice.

Purified Extract of Liquorice	1 troy ounce.
Water of Ammonia	a sufficient quantity.
Aromatic Elixir	enough to make 16 fluidounces.

Triturate the Purified Extract of Liquorice with *twelve* (12) *fluidounces* of Aromatic Elixir gradually added. To *ten* (10) *fluidounces* of this mixture add Water of Ammonia in drops, until it is in slight excess. Mix this with the reserved portion, and finally, add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

71. ELIXIR GLYCYRRHIZÆ AROMATICUM.

Aromatic Elixir of Glycyrrhiza.

Aromatic Elixir of Liquorice.

Fluid Extract of Glycyrrhiza	2 fluidounces.
Oil of Cloves	6 minims.
Oil of Cinnamon (Ceylon)	6 "
Oil of Nutmeg	4 "
Oil of Fennel	12 "
Purified Talcum	360 grains.
Aromatic Elixir	enough to make 16 fluidounces.

Triturate the Oils with the Purified Talcum and the Fluid Extract, then add *fourteen* (14) *fluidounces* of Aromatic Elixir, filter and pass enough Aromatic Elixir through the filter to make *sixteen* (16) *fluidounces*.

72. ELIXIR GRINDELIÆ.

Elixir of Grindelia.

Fluid Extract of Grindelia	1 fluidounce.
Aromatic Spirit	2 fluidounces.
Compound Elixir of Taraxacum	13 "

Mix them, allow the mixture to stand a few days, if convenient, then filter.

Each fluidounce represents 30 grains of Grindelia.

73. ELIXIR GUARANÆ.

Elixir of Guarana.

Fluid Extract of Guarana (U. S. P.)	3 fluidounces.
Aromatic Elixir	3 "
Compound Elixir of Taraxacum	10 "

Mix them; allow the mixture to stand during forty-eight hours, if convenient, and filter.

Each fluidrachm represents about 11 grains of Guarana.

74. ELIXIR HUMULI.

Elixir of Humulus.

Elixir of Hops.

Fluid Extract of Hops (N. F.)	2 fluidounces.
Carbonate of Magnesium	120 grains.
Tincture of Vanilla	240 minims.
Compound Elixir of Taraxacum	2 fluidounces.
Aromatic Elixir	enough to make 16 "

Triturate the Fluid Extract of Hops with the Carbonate of Magnesium, then gradually add the Compound Elixir of Taraxacum,

Tincture of Vanilla, and enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Allow the mixture to stand several days, if convenient, occasionally agitating; then filter.

Each fluidrachm represents 7½ grains of Humulus (Hops).

75. ELIXIR HYPOPHOSPHITUM.

Elixir of Hypophosphites.

Hypophosphite of Calcium	384 grains.
Hypophosphite of Sodium	128 "
Hypophosphite of Potassium	128 "
Citric Acid	80 "
Water	4 fluidounces.
Glycerin	½ fluidounce.
Compound Spirit of Cardamom	½ "
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Hypophosphites and the Citric Acid in the Water; then add the Glycerin, Compound Spirit of Cardamom, and enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm contains 3 grains of Hypophosphite of Calcium, and 1 grain, each, of the Hypophosphites of Sodium and Potassium.

76. ELIXIR HYPOPHOSPHITUM CUM FERRO.

Elixir of Hypophosphites with Iron.

Hypophosphite of Calcium	188 grains.
Hypophosphite of Sodium	128 "
Hypophosphite of Potassium	64 "
Sulphate of Iron, in clear crystals	96 "
Citric Acid	30 "
Water	4 fluidounces.
Syrup	4 "
Aromatic Elixir	enough to make 16 "

Dissolve the Hypophosphites in *three* (3) *fluidounces* of Water, and add the Syrup. Dissolve the Sulphate of Iron in the remainder of the Water, and mix this with the other solution. Then add *six* (6) *fluidounces* of Aromatic Elixir, set the mixture aside, in a cold place, for twelve hours, and filter from the deposited sulphate of calcium. Finally dissolve the Citric Acid in the filtrate, and pass enough Aromatic Elixir through the filter to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains about ½ grain of Hypophosphite of Iron (ferrous), about 1 grain, each, of the Hypophosphites of Calcium and Sodium, and ½ grain of Hypophosphite of Potassium.

77. ELIXIR LITHII BROMIDI.

Elixir of Bromide of Lithium.

Bromide of Lithium	640 grains.
Citric Acid	30 "
Adjuvant Elixir	enough to make 16 fluidounces.

Dissolve the Bromide of Lithium and the Citric Acid in about *twelve* (12) *fluidounces* of Adjuvant Elixir, by agitation. Then add enough Adjuvant Elixir to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm contains 5 grains of Bromide of Lithium.

78. ELIXIR LITHII CITRATIS.

Elixir of Citrate of Lithium.

Citrate of Lithium	640 grains
Adjuvant Elixir	enough to make 16 fluidounces.

Dissolve the Citrate of Lithium in about *twelve* (12) *fluidounces* of Adjuvant Elixir, by agitation. Then add enough Adjuvant Elixir to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm contains 5 grains of Citrate of Lithium.

79. ELIXIR LITHII SALICYLATIS.

Elixir of Salicylate of Lithium.

Salicylate of Lithium	640 grains.
Adjuvant Elixir	enough to make 16 fluidounces.

Dissolve the Salicylate of Lithium in about *twelve* (12) *fluidounces* of Adjuvant Elixir, by agitation. Then add enough Adjuvant Elixir to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm contains 5 grains of Salicylate of Lithium.

80. ELIXIR MALTI ET FERRI.

Elixir of Malt and Iron.

Extract of Malt	4 fluidounces.
Phosphate of Iron (U. S. P. 1880)	128 grains.
Water	½ fluidounce.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Phosphate of Iron in the Water by the aid of heat, mix the solution with the Extract of Malt previously introduced into a graduated bottle, and add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Set the mixture aside for twenty-four hours, and filter.

Each fluidrachm represents 1 grain of Phosphate of Iron, and 15 minims of Extract of Malt.

Note.—Extract of Malt, most suitable for this preparation, should have about the consistence of Balsam of Peru, at a temperature of about 15° C. (59° F.)

81. ELIXIR PEPSINI.

Elixir of Pepsin.

Pepsin (N. F.)	128 grains.
Hydrochloric Acid	30 minims.
Glycerin	2 fluidounces.
Compound Elixir of Taraxacum	1 fluidounce.
Alcohol	3 fluidounces.
Purified Talcum	120 grains.
Sugar	4 troy ounces.
Water	enough to make 16 fluidounces.

Mix the Pepsin with *six* (6) *fluidounces* of Water, add the Glycerin and Acid, and agitate until solution has been effected. Then add the Compound Elixir of Taraxacum, Alcohol, and the Purified Talcum, and mix thoroughly. Set the mixture aside for a few hours, occasionally agitating. Then filter it through a wetted filter, dissolve the Sugar in the filtrate, and pass enough Water through the filter to make the whole product measure *sixteen* (16) *fluidounces*.

Each fluidrachm represents 1 grain of Pepsin (N. F.)

82. ELIXIR PEPSINI, BISMUTHI ET STRYCHNINÆ.

Elixir of Pepsin, Bismuth and Strychnine.

Sulphate of Strychnine	1¼ grains.
Elixir of Pepsin and Bismuth	16 fluidounces.

Dissolve the Sulphate of Strychnine in the Elixir.

Each fluidrachm represents $\frac{1}{100}$ grain of Sulphate of Strychnine, 1 grain of Pepsin (N. F.), and 2 grains of Citrate of Bismuth and Ammonium.

83. ELIXIR PEPSINI ET BISMUTHI.

Elixir of Pepsin and Bismuth.

Pepsin (N. F.)	128 grains.
Citrate of Bismuth and Ammonium	256 "
Water of Ammonia	a sufficient quantity.
Glycerin	2 fluidounces.
Alcohol	3 "
Syrup	4 "
Compound Elixir of Taraxacum	1 fluidounce.
Purified Talcum	120 grains.
Water	enough to make 16 fluidounces.

Dissolve the Pepsin in *four* (4) *fluidounces* of Water. Dissolve the Citrate of Bismuth and Ammonium in *one* (1) *fluidounce* of warm Water, allow the solution to stand until clear, if necessary; then decant the clear liquid, and add to the residue just enough Water of Ammonia, to dissolve it, carefully avoiding an excess. Then

mix the two solutions, and add the Glycerin, Compound Elixir of Taraxacum, and Alcohol. Thoroughly incorporate the Purified Talcum with the mixture, filter it through a wetted filter, and pass enough Water through the filter to make the filtrate measure *thirteen* (13) *fluidounces*. To this add the Syrup.

Each fluidrachm represents 1 grain of Pepsin (N. F.), and 2 grains of Citrate of Bismuth and Ammonium.

84. ELIXIR PEPSINI ET FERRI.

Elixir of Pepsin and Iron.

Tincture of Citro-Chloride of Iron	512 minims.
Elixir of Pepsin	enough to make 16 fluidounces.

Mix the Tincture of Citro-Chloride of Iron with a sufficient quantity of Elixir of Pepsin to make *sixteen* (16) *fluidounces*, and filter, if necessary.

Each fluidrachm represents about ½ grain of Chloride of Iron (ferric), and nearly 1 grain of Pepsin (N. F.).

85. ELIXIR PHOSPHORI.

Elixir of Phosphorus.

Spirit of Phosphorus	3¾ fluidounces
Oil of Star-anise	16 minims.
Glycerin	9 fluidounces
Aromatic Elixir	enough to make 16 "

To the Spirit of Phosphorus add the Oil of Star-anise and Glycerin, and shake gently until they form a clear liquid. Then add the Aromatic Elixir, in small portions at a time, gently agitating after each addition, until a clear mixture results.

Keep the product in dark amber-colored vials, in a cool and dark place. It should not be prepared in quantities larger than will be consumed within a few months.

Each fluidrachm contains $\frac{1}{50}$ grain of Phosphorus.

86. ELIXIR PHOSPHORI ET NUCIS VOMICÆ.

Elixir of Phosphorus and Nux Vomica.

Tincture of Nux Vomica	256 minims.
Elixir of Phosphorus	enough to make 16 fluidounces.

Mix them. This preparation should be freshly made, when wanted for use.

Each fluidrachm represents 2 minims of Tincture of Nux Vomica, and nearly $\frac{1}{50}$ grain of Phosphorus.

87. ELIXIR PICIS COMPOSITUM.

Compound Elixir of Tar.

Syrup of Wild Cherry	3 fluidounces.
Syrup of Tolu	3 "
Sulphate of Morphine	2½ grains.
Methylic Alcohol	360 minims.
Water	a sufficient quantity.
Wine of Tar	enough to make 16 fluidounces.

Dissolve the Sulphate of Morphine in about *one* (1) *fluidrachm* of hot Water, and add the solution to the two Syrups previously mixed. Then add the Methylic Alcohol and enough Wine of Tar to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains about $\frac{1}{60}$ grain of Sulphate of Morphine.

Note.—Much of the commercial "Wood Spirit" or "Wood Naphtha" is unfit for medicinal purposes. Refined Wood Naphtha or Methylic Alcohol should be colorless and freely miscible to a clear liquid with water, alcohol and ether. Its odor, which is characteristic, should be free from empyreuma. It should contain at least 90 per cent. of absolute Methylic Alcohol, which corresponds to a specific gravity of 0.846 at 15° C. (59° F.). On mixing methylic alcohol cautiously with one-fourth its volume of sulphuric acid, the liquid should remain colorless or acquire not more than a very pale yellowish-red tint; and on gently heating methylic alcohol with an equal volume of a 10% solution of potassa, the mixture should not acquire a brown color.

88. ELIXIR PILOCARPI.

Elixir of Pilocarpus.

Elixir of Jaborandi.

Fluid Extract of Pilocarpus	1 fluidounce.
Syrup of Coffee	3 fluidounces.
Tincture of Vanilla	½ fluidounce.
Compound Elixir of Taraxacum	enough to make 16 fluidounces.

Mix them, allow the mixture to stand during four days, if convenient, and filter.

Each fluidrachm represents 3¾ grains of Pilocarpus.

89. ELIXIR POTASSII ACETATIS.

Elixir of Acetate of Potassium.

Acetate of Potassium	640 grains.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Acetate of Potassium in *twelve* (12) *fluidounces* of Aromatic Elixir, then add enough of the latter to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm contains 5 grains of Acetate of Potassium.

90. ELIXIR POTASSII ACETATIS ET JUNIPERI.

Elixir of Acetate of Potassium and Juniper.

Acetate of Potassium	640 grains.
Fluid Extract of Juniper	2 fluidounces.
Carbonate of Magnesium	120 grains.
Aromatic Elixir	enough to make 16 fluidounces.

Triturate the Fluid Extract of Juniper with the Carbonate of Magnesium, then add *twelve* (12) *fluidounces* of Aromatic Elixir in which the Acetate of Potassium has previously been dissolved. Filter, and add enough Aromatic Elixir through the filter, to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents 5 grains of Acetate of Potassium and 7½ grains of Juniper.

91. ELIXIR POTASSII BROMIDI.

Elixir of Bromide of Potassium.

Bromide of Potassium	1280 grains.
Citric Acid	30 "
Adjuvant Elixir	enough to make 16 fluidounces.

Dissolve the Bromide of Potassium and the Citric Acid in about *twelve* (12) *fluidounces* of Adjuvant Elixir, by agitation. Then add enough Adjuvant Elixir to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm contains 10 grains of Bromide of Potassium.

92. ELIXIR QUININÆ COMPOSITUM.

Compound Elixir of Quinine.

Sulphate of Quinine	16 grains.
Sulphate of Cinchonidine	8 "
Sulphate of Cinchonine	8 "
Aromatic Elixir	16 fluidounces.

Add the alkaloidal salts to the Aromatic Elixir, and dissolve them by agitation. Finally filter.

Each fluidounce contains 1 grain of Sulphate of Quinine and ½ grain, each, of the Sulphates of Cinchonidine and Cinchonine.

Note.—This preparation is chiefly intended as a substitute for Elixir of Cinchona in certain cases, when the presence of other constituents of Cinchona is deemed unnecessary, or where the Elixir is intended rather as a vehicle than a medicine.

If it is desired to impart a color to this Elixir, this may be effected by the addition of 120 minims of Compound Tincture of Cudbear to each pint.

93. ELIXIR QUININÆ ET PHOSPHATUM COMPOSITUM.

Compound Elixir of Quinine and Phosphates.

Sulphate of Quinine	32 grains.
Phosphate of Iron (U. S. P. 1880)	128 "
Citrate of Potassium	128 "
Syrup of Lactophosphate of Calcium	4 fluidounces.
Water	½ fluidounce.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Sulphate of Quinine in *ten* (10) *fluidounces* of Aromatic Elixir, if necessary with the aid of a gentle heat. Dissolve the Phosphate of Iron and the Citrate of Potassium in the Water, and add the solution to that first prepared. Then add the Syrup of Lactophosphate of Calcium, and lastly, enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm contains ¼ grain of Sulphate of Quinine, 1 grain of Phosphate of Iron, and about ¾ grain of so-called Lactophosphate of Calcium.

94. ELIXIR QUININÆ VALERIANATIS ET STRYCHNINÆ.

Elixir of Valerianate of Quinine and Strychnine.

Valerianate of Quinine	128 grains.
Sulphate of Strychnine	1¼ "
Compound Tincture of Cudbear	120 minims.
Aromatic Elixir	enough to make 16 fluidounces.

Triturate the Valerianate of Quinine and the Sulphate of Strychnine with about *eight* (8) *fluidounces* of Aromatic Elixir, until they are dissolved. Then add the Compound Tincture of Cudbear, and lastly, enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm contains 1 grain of Valerianate of Quinine and $\frac{1}{100}$ grain of Sulphate of Strychnine.

95. ELIXIR RHAMNI PURSHIANÆ.

Elixir of Rhamnus Purshiana.

Elixir of Cascara Sagrada.

Fluid Extract of Rhamnus Purshiana	4 fluidounces.
Elixir of Glycyrrhiza	4 "
Compound Elixir of Taraxacum	8 "

Mix them. Allow the mixture to stand a few days, if convenient, and filter.

Each fluidrachm represents 15 grains of Rhamnus Purshiana.

96. ELIXIR RHAMNI PURSHIANÆ COMPOSITUM.

Compound Elixir of Rhamnus Purshiana.

Compound Elixir of Cascara Sagrada. Elixir Laxativum; Elixir Purgans; Laxative Elixir.

Fluid Extract of Rhamnus Purshiana	2 fluidounces.
Fluid Extract of Senna	1½ "
Fluid Extract of Juglans	1 fluidounce.
Fluid Extract of Glycyrrhiza	½ "
Compound Tincture of Cardamom	½ "
Aromatic Spirit	2 fluidounces.
Syrup	6 "
Purified Talcum	120 grains.
Water	enough to make 16 fluidounces.

Mix the Fluid Extracts with the Compound Tincture of Cardamom and the Aromatic Spirit; then add the Syrup, and lastly, enough Water to make *sixteen* (16) *fluidounces.* Incorporate the Purified Talcum thoroughly with the mixture, and filter.

The average dose of this preparation, for an adult, is 1 to 2 teaspoonfuls.

97. ELIXIR RHEI.

Elixir of Rhubarb.

Sweet Tincture of Rhubarb (U. S. P.)	8 fluidounces.
Deodorized Alcohol	1 fluidounce.
Water	3 fluidounces.
Glycerin	2 "
Syrup	2 "

Mix them, and filter.

Each fluidrachm represents about 2¼ grains of Rhubarb.

98. ELIXIR RHEI ET MAGNESII ACETATIS.

Elixir of Rhubarb and Acetate of Magnesium.

Elixir Rhei et Magnesiæ. Elixir of Rhubarb and Magnesia.

Magnesia, calcined	144 grains.
Acetic Acid (U. S. P.)	a sufficient quantity.
Fluid Extract of Rhubarb	2 fluidounces.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Magnesia in *two and one-half* (2½) *fluidounces* of Acetic Acid, with the aid of a gentle heat, adding, if necessary, a little more Acetic Acid, drop by drop, until the solution is neutral to test-paper. Then add the Fluid Extract and enough Aromatic Elixir to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm represents about 4 grains of Acetate of Magnesium and 7½ grains of Rhubarb.

99. ELIXIR RUBI COMPOSITUM.

Compound Elixir of Blackberry.

Blackberry Root	2 troy ounces.
Galls	2 " "
Cinnamon, Saigon	2 " "
Cloves	½ troy ounce.
Mace	¼ " "
Ginger	¼ " "
Diluted Alcohol	a sufficient quantity.
Blackberry Juice, recently expressed	3 pints.
Syrup	3 "

Reduce the solids to a moderately coarse (No. 40) powder, moisten it with Diluted Alcohol, and percolate it with this menstruum in the usual manner, until *two* (2) *pints* of percolate are obtained. To this add the Blackberry Juice and Syrup, and mix thoroughly.

100. ELIXIR SODII BROMIDI.

Elixir of Bromide of Sodium.

Bromide of Sodium	1280 grains.
Citric Acid	30 "
Adjuvant Elixir	enough to make 16 fluidounces.

Dissolve the Bromide of Sodium and the Citric Acid in about *twelve* (12) *fluidounces* of Adjuvant Elixir by agitation. Then add enough Adjuvant Elixir to make *sixteen* (16) *fluidounces*, and filter, if necessary.

Each fluidrachm contains 10 grains of Bromide of Sodium.

101. ELIXIR SODII HYPOPHOSPHITIS.

Elixir of Hypophosphite of Sodium.

Hypophosphite of Sodium	256 grains.
Citric Acid	30 "
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Hypophosphite of Sodium and the Citric Acid in about *twelve* (12) *fluidounces* of Aromatic Elixir, by agitation. Then add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*, and filter, if necessary.

Each fluidrachm contains 2 grains of Hypophosphite of Sodium.

102. ELIXIR SODII SALICYLATIS.

Elixir of Salicylate of Sodium.

Salicylate of Sodium	640 grains.
Aromatic Elixir	enough to make 16 fluidounces.

Dissolve the Salicylate of Sodium in about *twelve* (12) *fluidounces*

of Aromatic Elixir, by agitation. Then add enough Aromatic Elixir to make *sixteen* (16) *fluidounces*, and filter, if necessary.

This preparation should be freshly prepared, when required for use.

Each fluidrachm contains 5 grains of Salicylate of Sodium.

103. ELIXIR STILLINGIÆ COMPOSITUM.

Compound Elixir of Stillingia.

Compound Fluid Extract of Stillingia	4 fluidounces.
Aromatic Elixir	12 "

Mix them, allow the mixture to stand a few days, or longer, if convenient, and filter.

Each fluidrachm represents 15 minims of Compound Fluid Extract of Stillingia.

104. ELIXIR STRYCHNINÆ VALERIANATIS.

Elixir of Valerianate of Strychnine.

Valerianate of Strychnine	1¼ grains.
Acetic Acid	a sufficient quantity.
Tincture of Vanilla	120 minims.
Compound Tincture of Cudbear	120 "
Aromatic Elixir	enough to make 16 fluidounces

Triturate the Valerianate of Strychnine with about *one* (1) *fluidounce* of Aromatic Elixir, gradually added, and effect complete solution by the addition of one or more drops of Acetic Acid, avoiding an excess. Then add the Tinctures, and lastly, enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Filter, if necessary.

Each fluidrachm contains $\frac{1}{100}$ grain of Valerianate of Strychnine.

105. ELIXIR TARAXACI COMPOSITUM.

Compound Elixir of Taraxacum.

Taraxacum	1 troy ounce.
Wild Cherry	1 " "
Sweet Orange Peel, recently dried	1 " "
Glycyrrhiza, Russian, peeled	3 troy ounces.
Cinnamon, Saigon	120 grains.
Cardamom	120 "
Canada Snake Root	120 "
Caraway	120 "
Cloves	40 "
Alcohol,	
Water, each	a sufficient quantity.
Syrup	32 fluidounces.

Reduce the solid substances to a moderately coarse (No. 40) pow-

der, and percolate, in the usual manner, with a mixture of *one* (1) *volume* of Alcohol and *two* (2) *volumes* of Water, until *sixteen* (16) *fluidounces* of percolate are obtained. Lastly, add the Syrup, let the mixture stand a few days, if possible, and filter.

Note.—If a precipitate should make its appearance in this preparation on standing, it ought to be removed by filtration. This Elixir is chiefly intended as a vehicle or corrigent, to cover the bitter taste of quinine and similar substances.

106. ELIXIR TURNERÆ.

Elixir of Turnera.

Elixir of Damiana.

Fluid Extract of Turnera	2½ fluidounces.
Carbonate of Magnesium	240 grains.
Alcohol	4 fluidounces.
Glycerin	1 fluidounce.
Aromatic Elixir	enough to make 16 fluidounces.

Mix the Fluid Extract with the Alcohol, Glycerin, and *eight* (8) *fluidounces* of Aromatic Elixir. Incorporate the Carbonate of Magnesium thoroughly with the mixture by trituration. Then filter through a wetted filter, and pass enough Aromatic Elixir through the filter to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents about 9½ grains of Turnera.

107. ELIXIR VIBURNI OPULI COMPOSITUM.

Compound Elixir of Viburnum Opulus.

Compound Elixir of Crampbark.

Fluid Extract of Viburnum Opulus	1½ fluidounces.
Fluid Extract of Trillium	2½ "
Fluid Extract of Aletris	1½ "
Compound Elixir of Taraxacum	11 "

Mix them, allow the mixture to stand a few days, and filter.

108. ELIXIR VIBURNI PRUNIFOLII.

Elixir of Viburnum Prunifolium.

Elixir of Black Haw.

Fluid Extract of Viburnum Prunifolium	2 fluidounces.
Compound Tincture of Cardamom	1 fluidounce.
Aromatic Elixir	13 fluidounces.

Mix them, allow the mixture to stand a few days, and filter.

Each fluidrachm represents about 7½ grains of Viburnum Prunifolium.

109. ELIXIR ZINCI VALERIANATIS.

Elixir of Valerianate of Zinc.

Valerianate of Zinc	128 grains.
Stronger Solution of Citrate of Ammonium	1½ fluidounces.
Alcohol	2 "
Oil of Bitter Almond	1 drop.
Compound Tincture of Cudbear	120 minims.
Aromatic Elixir	enough to make 16 fluidounces.

Mix the Stronger Solution of Citrate of Ammonium with *four* (4) *fluidounces* of Aromatic Elixir and the Alcohol, and triturate the Valerianate of Zinc with this mixture, added gradually and in portions, until solution has been effected. Then add the Oil of Bitter Almond, the Compound Tincture of Cudbear, and finally, enough Aromatic Elixir to make *sixteen* (16) *fluidounces*. Allow the mixture to stand a few days, and filter.

Each fluidrachm contains 1 grain of Valerianate of Zinc.

110. EMPLASTRUM AROMATICUM.

Aromatic Plaster.

Spice Plaster.

Cloves	10 parts.
Cinnamon, Saigon	10 "
Ginger	10 "
Capsicum	5 "
Camphor	5 "
Cotton Seed Oil	35 "
Lead Plaster	25 "

Melt together the Lead Plaster and Cotton Seed Oil, with the aid of heat. Cool the mixture and, while it is still soft, thoroughly incorporate with it the aromatic ingredients, previously reduced to a very fine powder.

111. EMPLASTRUM FUSCUM CAMPHORATUM.

Camphorated Brown Plaster.

Emplastrum Matris Camphoratum; Camphorated Mother's Plaster.

Red Oxide of Lead	30 parts.
Olive Oil	60 "
Yellow Wax	15 "
Camphor	1 part.

Triturate the Red Oxide of Lead with a portion of the Oil in a capacious copper kettle until a smooth paste results. Then add the remainder of the Oil, excepting a small quantity required for trituration with the Camphor, and boil the whole over a naked fire, under constant stirring, until gas bubbles rise, or until the red color

of the mixture begins to turn brown. Then moderate the heat, but keep up the stirring until the mixture has acquired a dark-brown color, and from time to time allow some drops of it to fall into cold water to test its consistence. When this is satisfactory, remove the vessel from the fire, add the Wax in small pieces, and finally the Camphor, previously rubbed to a smooth paste with a little Olive Oil. Mix thoroughly, allow the mixture to become somewhat cool, and while it is still warm, pour the plaster into paper-moulds previously coated with mucilage containing about five per cent. of glycerin, and dried.

Note.—This preparation is officinal in the *German Pharmacopœia.*

112. EMPLASTRUM PICIS LIQUIDÆ COMPOSITUM.

Compound Tar Plaster.

Resin	25 parts.
Tar	20 "
Podophyllum, in No. 60 powder	5 "
Phytolacca Root, in No. 60 powder	5 "
Sanguinaria, in No. 60 powder	5 "

Melt the Resin and Tar together, then stir in the mixed powders, and as the mass cools, mould it into rolls, or pour it into boxes.

113. EMULSIO CHLOROFORMI.

Emulsion of Chloroform.

Chloroform	40 minims.
Tincture of Quillaja	30 "
Acacia, in fine powder	12 grains.
Water	enough to make 2 fluidounces.

Put the Chloroform and the Tincture of Quillaja into a two-ounce vial, add the Powdered Acacia, shake, then add the Water, and mix. Shake the mixture before using.

Each fluidrachm contains 2½ minims of Chloroform.

114. EMULSIO OLEI MORRHUÆ.

Emulsion of Cod-Liver Oil.

I. *Irish Moss Emulsion of Cod-Liver Oil.*

Cod-Liver Oil	8 fluidounces.
Mucilage of Irish Moss (N. F.)	5 "
Syrup of Tolu	2 "
Flavoring	a sufficient quantity.
Water	enough to make 16 fluidounces.

Pour the Mucilage of Irish Moss into a suitable bottle, add the Cod-Liver Oil in divided portions, shaking well after each addition, and, when a perfect emulsion is formed, add the Syrup of Tolu, and

Flavoring, and lastly, enough Water to make *sixteen* (16) *fluidounces*. Finally, mix the whole thoroughly together.

This emulsion may also be prepared by mixing the Mucilage of Irish Moss with the Oil and other ingredients in a mortar, or, when larger quantities are to be prepared, it may be mixed by some mechanical contrivance.

Note.—When Emulsion of Cod-Liver Oil, particularly that made with Irish Moss, is to be kept for some time, its deterioration may be prevented or retarded by the addition of *one* (1) *fluidounce* of Alcohol in place of the same quantity of Water, after the oil has been emulsified.

Emulsion of Cod-Liver Oil may also be prepared by any other method capable of emulsifying the oil, the following being given as examples:

II. *Acacia Emulsion of Cod-Liver Oil.*

Cod-Liver Oil	8 fluidounces.
Acacia, in fine powder	1½ troy ounces.
Syrup of Tolu	2 fluidounces.
Flavoring	a sufficient quantity.
Water	enough to make 16 fluidounces.

Triturate the Acacia with *three* (3) *fluidounces* of Water to a smooth paste; then add the Cod-Liver Oil, and the Syrup of Tolu, alternately, and in divided portions, triturating well until the last added portion of the Oil is thoroughly emulsified. Next add the Flavoring, and lastly, enough Water to make *sixteen* (16) *fluidounces*. Finally mix the whole thoroughly together.

III. *Glyconin Emulsion of Cod-Liver Oil.*

Cod-Liver Oil	8 fluidounces.
Glycerite of Yolk of Egg (U. S. P.)	2½ "
Syrup of Tolu	2 "
Flavoring	a sufficient quantity.
Water	enough to make 16 fluidounces.

Triturate the Glycerite of Yolk of Egg (Glyconin) in a mortar with the Oil, added in small portions at a time, and thoroughly incorporate each portion before adding the next. Then, continuing the trituration, gradually add the Syrup of Tolu, and Flavoring. Finally add enough Water to make *sixteen* (16) *fluidounces*, and mix the whole thoroughly together.

IV. *Quillaja Emulsion of Cod-Liver Oil.*

Cod-Liver Oil	8 fluidounces.
Tincture of Quillaja (N. F.)	1 fluidounce.
Syrup of Tolu	2 fluidounces.
Flavoring	a sufficient quantity.
Water	enough to make 16 fluidounces.

Pour the Tincture into a suitable bottle, then add the Cod-Liver Oil in portions of about *two* (2) *fluidounces* each, and shake after each addition until a perfect emulsion results. Next add the Syrup of Tolu, and the Flavoring, and lastly, enough Water to make *sixteen* (16) *fluidounces*. Finally, mix the whole thoroughly together.

An 85-per-cent. Emulsion of Cod-Liver Oil may be prepared by mixing in the manner just described:

Cod-Liver Oil	8½ fluidounces.
Tincture of Quillaja (N. F.)	1 fluidounce.
Flavoring	a sufficient quantity.
Syrup of Tolu	enough to make 10 fluidounces.

Note.—Emulsion of Cod-Liver Oil made with Quillaja should not be dispensed without the direction or consent of the prescriber.

V. *Dextrin Emulsion of Cod-Liver Oil.*

Cod-Liver Oil	8 fluidounces.
Mucilage of Dextrin (N. F.)	5 "
Syrup of Tolu	2 "
Flavoring	a sufficient quantity.
Water	enough to make 16 fluidounces.

To the Mucilage of Dextrin contained in a suitable bottle, add the Cod-Liver Oil, first in small portions, agitating each time, until the last added portion is emulsified. Then add the Flavoring, the Syrup of Tolu, and lastly, enough Water to make *sixteen* (16) *fluidounces*, and mix the whole thoroughly together.

Flavoring.—Since no single or compound aromatic can be devised which would be acceptable under all circumstances as a flavoring for Emulsion of Cod-Liver Oil, the selection of the most suitable aromatic must be left to the prescriber or dispenser. Among those which are found to be most generally serviceable are the following, the quantities given below being intended for *one* (1) *pint* of finished emulsion, though in some cases a smaller or a larger quantity, in the same proportions, may be preferable:

1. Oil of Gaultheria . . 30 minims.

2. Oil of Gaultheria . . 15 minims.
   Oil of Sassafras . . . 15 "

3. Aromatic Spirit (N. F.) 120 minims.

4. Oil of Gaultheria . . 15 minims.
   Oil of Bitter Almond. 2 "
   Oil of Coriander . . 2 "

5. Oil of Gaultheria . . 10 minims.
   Oil of Sassafras . . . 10 "
   Oil of Bitter Almond. 2 "

6. Oil of Gaultheria . . 20 minims.
   Oil of Bitter Almond. 20 "

7. Oil of Neroli . . . . 12 minims.
   Oil of Bitter Almond. 12 "
   Oil of Cloves . . . . 2 "

115. EMULSIO OLEI MORRHUÆ CUM CALCII ET SODII PHOSPHATIBUS.

Emulsion of Cod-Liver Oil with Phosphates of Calcium and Sodium.

Emulsion of Cod-Liver Oil with Phosphates of Lime and Soda.

Cod-Liver Oil	8 fluidounces.
Mucilage of Irish Moss (N. F.)	5 "
Phosphate of Calcium	128 grains.
Phosphate of Sodium	128 "
Syrup of Tolu	1 fluidounce.
Alcohol	1 "
Flavoring	a sufficient quantity.
Water	enough to make 16 fluidounces.

Dissolve the Phosphate of Sodium in the Mucilage of Irish Moss, and emulsify the Cod-Liver Oil, with the latter, as directed under *Emulsio Olei Morrhuæ*. Then triturate the Phosphate of Calcium with the Syrup of Tolu, add the mixture to the emulsion, afterwards add the Alcohol and Flavoring, and finally enough Water to make *sixteen* (16) *fluidounces*. Mix the whole thoroughly together.

Note.—If another method of emulsifying the oil is adopted, the Phosphate of Sodium should be dissolved in the aqueous portion of the mixture, and the Phosphate of Calcium incorporated mechanically.

116. EMULSIO OLEI MORRHUÆ CUM CALCII LACTOPHOSPHATE.

Emulsion of Cod-Liver Oil with Lactophosphate of Calcium.

Emulsion of Cod-Liver Oil with Lactophosphate of Lime.

Cod-Liver Oil	8 fluidounces.
Mucilage of Irish Moss (N. F.)	5 "
Lactate of Calcium	256 grains.
Phosphoric Acid (50%)	256 minims.
Syrup of Tolu	1 fluidounce.
Flavoring	a sufficient quantity.
Water	enough to make 16 fluidounces.

To the Mucilage of Irish Moss, contained in a suitable bottle, gradually add the Cod-Liver Oil and emulsify the latter as directed under *Emulsio Olei Morrhuæ*. Dissolve the Lactate of Calcium in *one* (1) *fluidounce* of Water with the aid of the Phosphoric Acid, add the solution gradually to the emulsion, then the Syrup of Tolu, the Flavoring, and lastly, enough Water to make *sixteen* (16) *fluidounces*. Mix the whole thoroughly together.

This emulsion should be freshly prepared when wanted for use.

Note.—If any other method of emulsifying the oil is adopted, the solution of Lactophosphate of Calcium should be made to replace an equivalent volume of the aqueous portion of the emulsion.

117. EMULSIO OLEI MORRHUÆ CUM CALCII PHOSPHATE.

Emulsion of Cod-Liver Oil with Phosphate of Calcium.

Emulsion of Cod-Liver Oil with Phosphate of Lime.

Cod-Liver Oil	8 fluidounces.
Mucilage of Irish Moss (N. F.)	5 "
Phosphate of Calcium	256 grains.
Syrup of Tolu	1 fluidounce.
Alcohol	1 "
Flavoring	a sufficient quantity.
Water	enough to make 16 fluidounces.

To the Mucilage of Irish Moss, contained in a suitable vessel, gradually add the Cod-Liver Oil and prepare an emulsion as directed under *Emulsio Olei Morrhuæ*. Triturate the Phosphate of Calcium with the Syrup of Tolu and add this to the emulsion; then add the Alcohol, Flavoring, and enough Water to make *sixteen* (16) *fluidounces*. Mix the whole thoroughly together.

Note.—If any other method of emulsifying the oil is adopted, the Phosphate of Calcium should be triturated with Water, or some other of the liquid constituents, which are added last.

118. EMULSIO OLEI MORRHUÆ CUM EXTRACTO MALTI.

Emulsion of Cod-Liver Oil with Extract of Malt.

Cod-Liver Oil	8 fluidounces.
Mucilage of Dextrin (N. F.)	2 "
Extract of Malt	6 "

To the Mucilage of Dextrin contained in a suitable bottle, add the Extract of Malt, and mix them thoroughly by agitation. Then gradually add the Cod-Liver Oil, first in small portions, agitating each time until the last-added portion is perfectly incorporated.

Note.—Extract of Malt, most suitable for this preparation, should have about the same consistence as Balsam of Peru, at a temperature of 15° C. (59° F.)

119. EMULSIO OLEI MORRHUÆ CUM HYPOPHOSPHITE.

Emulsion of Cod-Liver Oil with Hypophosphite.

Cod-Liver Oil	8 fluidounces.
Mucilage of Irish Moss (N. F.)	5 "
Any Soluble Hypophosphite	128 grains.
Syrup of Tolu	1 fluidounce.
Alcohol	1 "
Flavoring	a sufficient quantity.
Water	enough to make 16 fluidounces.

Dissolve the Hypophosphite in the Mucilage of Irish Moss, and emulsify the Cod-Liver Oil with the latter as directed under *Emulsio Olei Morrhuæ*. Then add the Syrup of Tolu, Alcohol, and Flavoring, and finally, enough Water to make *sixteen* (16) *fluidounces*. Mix the whole thoroughly together.

Note.—If another method of emulsifying the oil is adopted, the Hypophosphite should be dissolved in the aqueous portion of the mixture.

If more than one Hypophosphite is directed in combination with Emulsion of Cod-Liver Oil, and no definite quantities of the salts are prescribed, equal parts of the several Hypophosphites may be taken, amounting altogether to 128 grains, for every pint of emulsion.

120. EMULSIO OLEI MORRHUÆ CUM PRUNO VIRGINIANA.

Emulsion of Cod-Liver Oil with Wild Cherry.

Cod-Liver Oil	8 fluidounces.
Mucilage of Irish Moss (N. F.)	5 "
Fluid Extract of Wild Cherry	1 fluidounce.
Syrup of Tolu	1 "
Alcohol	½ "
Flavoring	a sufficient quantity.
Water	enough to make 16 fluidounces.

To the Mucilage of Irish Moss, contained in a suitable bottle, gradually add the Cod-Liver Oil, and prepare an emulsion as directed under *Emulsio Olei Morrhuæ*. Next add the Fluid Extract of Wild Cherry, then the Syrup of Tolu, Alcohol, Flavoring, and enough Water to make *sixteen* (16) *fluidounces*.

Note.—If another method of emulsifying the oil is adopted, the Fluid Extract of Wild Cherry is to be added after the emulsion of the oil is accomplished, if necessary, with omission of a corresponding volume of one of the secondary constituents.

121. EMULSIO OLEI RICINI.

Emulsion of Castor Oil.

I. Irish Moss Emulsion of Castor Oil.

Castor Oil	5 fluidounces.
Mucilage of Irish Moss (N. F.)	5 "
Tincture of Vanilla	180 minims.
Syrup	3 fluidounces.
Water	enough to make 16 fluidounces.

To the Mucilage of Irish Moss, contained in a suitable bottle, add the Castor Oil in divided portions, agitating each time until the last-added portion has been emulsified. Then add the Tincture of Vanilla, the Syrup, and enough Water to make *sixteen* (16) *fluidounces*. Finally, mix the whole thoroughly together.

This emulsion should not be prepared in larger quantity than may be consumed within a short time.

Emulsion of Castor Oil may also be prepared by other methods capable of emulsifying the oil, provided the vehicles and ingredients are compatible with the therapeutic employment of the preparation. In absence of any specific directions of the prescriber, it is recommended that Castor Oil Emulsion be only prepared either by means of Irish Moss, or by means of Acacia.

II. Acacia Emulsion of Castor Oil.

Castor Oil	5 fluidounces.
Acacia, in fine powder	1½ troy ounces.
Tincture of Vanilla	180 minims.
Syrup	3 fluidounces.
Water, enough to make	16 "

Mix the Syrup with *two* (2) *fluidounces* of Water, and triturate the Acacia with the mixture to a smooth paste. Then gradually incorporate with it the Castor Oil. Transfer the mixture to a bottle, add the Tincture of Vanilla, and enough Water to make *sixteen* (16) *fluidounces*. Finally, mix the whole thoroughly together.

This Emulsion should not be prepared in larger quantity than may be consumed within a short time.

122. EMULSIO OLEI TEREBINTHINÆ.

Emulsion of Oil of Turpentine.

Oil of Turpentine	½ fluidounce.
Acacia, in fine powder	30 grains.
Yolk of Egg	one (1)
Aromatic Elixir	½ fluidounce.
Cinnamon Water, enough to make	4 fluidounces.

Triturate the Acacia with the Yolk of Egg, then add the Oil of Turpentine very slowly, continuing the trituration, and finally, add the Water and Aromatic Elixir in the same manner.

Emulsion of Oil of Turpentine, or of any *Volatile Oil*, may also be prepared according to the following general formula:

Volatile Oil	½ fluidounce.
Acacia, in fine powder	120 grains.
Syrup	1 fluidounce.
Water, enough to make	4 fluidounces.

Pour the Volatile Oil into a dry four-ounce bottle, and, having corked the latter, agitate it so that the inner surface may be completely wetted by the Oil. Then add the Acacia, and shake again. Finally add the Syrup, and enough Water to make *four* (4) *fluidounces*, and mix thoroughly by shaking.

Note.—If this general formula is applied to Emulsion of Oil of Turpentine, and a product similar to that obtained by the first formula is desired, the Syrup should be replaced by Aromatic Elixir, and the Water by Cinnamon Water.

If a so-called "Emulsion" of a Volatile Oil is to be made more permanent, this may be accomplished by incorporating with it a small proportion of some bland fixed oil, such as Expressed Oil of Almond. Usually, 1 volume of the fixed oil will be sufficient for 2 volumes of the volatile oil.

In this case, the mixture should be made in a mortar, by trituration.

123. EMULSIO PHOSPHATICA.

Phosphatic Emulsion.

Mistura Phosphatica.

Cod-Liver Oil	4	fluidounces.
Glycerite of Yolk of Egg (U. S. P.)	2½	troy ounces.
Diluted Phosphoric Acid	360	minims.
Oil of Bitter Almond	10	"
Rum, Jamaica	4	fluidounces.
Orange Flower Water	enough to make 16	fluidounces.

To the Glycerite of Yolk of Egg (Glyconin) contained in a suitable bottle, gradually add the Cod-Liver Oil, in small portions at a time, shaking after each addition, until the added portion is emulsified. Then gradually add the Phosphoric Acid, Rum, and Oil of Bitter Almond, incorporating them thoroughly. Finally, add enough Orange Flower Water to make *sixteen* (16) *fluidounces*, and mix the whole thoroughly.

124. EXTRACTA FLUIDA.

Fluid Extracts.

The Fluid Extracts for which formulæ are given in this Formulary, are intended to be of such a strength that *one* (1) *minim* shall represent *one* (1) *grain* of the air-dry, powdered drug.

Note.—The U. S. Pharm. directs that 100 cubic centimeters of fluid extract shall be obtained from 100 grammes of drug. Fluid extracts prepared in this ratio are 5 per cent. weaker than those which are made minim for grain. The difference between the two kinds is not regarded as being of material importance.

General Processes. The Fluid Extracts of this Formulary are to be prepared according to one of the following two general processes, the particular one to be employed being designated in each case.

Process A. The Menstruum contains no Glycerin.

Moisten *sixteen* (16) *troy ounces* of the drug with a sufficient quantity of the prescribed menstruum to render it distinctly damp and to maintain it so after several hours' maceration in a well covered vessel. When the drug has ceased to swell, pack it in a suitable percolator, pour a sufficient quantity of the menstruum on top, and,

when the percolate begins to drop from the orifice, close the latter, cover the percolator, and allow the contents to macerate for twenty-four hours. Then permit the percolation to proceed. Receive the first *fourteen* (14) *fluidounces* of the percolate separately and set it aside. Then continue the percolation with the same menstruum until the drug is practically exhausted. Evaporate this second portion—at a temperature sufficiently low to prevent the loss of any important volatile constituent—to a soft extract, and dissolve this in a sufficient quantity of the menstruum so that when this is added to the reserved portion, the product will measure *sixteen* (16) *fluidounces*. Allow the Fluid Extract to stand a few days, or longer, if convenient, and filter, if necessary.

Process B. The Menstruum contains Glycerin.

Moisten *sixteen* (16) *troy ounces* of the drug with a sufficient quantity of Menstruum I (see note) to render it distinctly damp and to maintain it so after several hours' maceration in a well covered vessel. When the drug has ceased to swell, pack it in a suitable percolator and pour the remainder of Menstruum I on top. When this has just disappeared from the surface, follow it by a sufficient quantity of Menstruum II. As soon as the percolate begins to drop from the orifice, close the latter, cover the percolator, and allow the contents to macerate during twenty-four hours. Then permit the percolation to proceed. Receive the first *fourteen* (14) *fluidounces* of the percolate separately and set it aside. Then continue the percolation with Menstruum II, until the drug is practically exhausted. Evaporate this second portion—at a temperature sufficiently low to prevent the loss of any important volatile constituent—to a soft extract, and dissolve this in a sufficient quantity of Menstruum II, so that when this is added to the reserved portion, the product will measure *sixteen* (16) *fluidounces*. Allow the Fluid Extract to stand a few days, or longer, if convenient, and filter, if necessary.

Note.—"Menstruum I" and "Menstruum II" denote the several liquids which will be directed for preparing certain Fluid Extracts. Compare, for instance, Nos. 138, 140, 141.

When it is desired to avoid the use of heat in the preparation of any Fluid Extract, a method of *Fractional Percolation* may be employed, for which directions are given below.

This method involves the use of only *one* kind of menstruum, even in the case of drugs for which two different successive menstrua (I and II) are prescribed in this Formulary. In the case of the latter, a sufficient quantity of Menstruum I should be prepared to serve throughout the process.

Fractional Percolation.—Take of the drug, in powder of the prescribed fineness, *sixteen* (16) *troy ounces*, and divide this into three portions, of *eight* (8), *five* (5) and *three* (3) *troy ounces*, respectively.

Moisten the *first portion* (8 troy ounces) with the menstruum and percolate in the usual manner. Set aside the first *three* (3) *fluidounces* of the percolate,

and continue until *twenty-four* (24) *fluidounces* more of percolate have passed, which should be received in several portions, so that the more concentrated will be separate from the last, weak percolate.

Then moisten the *second portion* of the drug (5 troy ounces) with the most concentrated of the percolates received during the preceding operation after the first 3 fluidounces had passed, and percolate again in the usual manner, using the several reserved percolates, successively, as menstrua. Set aside the first *five* (5) *fluidounces*, and continue the percolation until *ten* (10) *fluidounces* more have passed, which should also be received in several portions.

Finally moisten the *third portion* of the drug (3 troy ounces) with the most concentrated of the last reserved percolates, and proceed as directed for the second portion. Collect the first *eight* (8) *fluidounces* separately, and mix them with the two portions previously set aside so as to make *sixteen* (16) *fluidounces* of Fluid Extract.

125. EXTRACTUM ADONIDIS FLUIDUM.

Fluid Extract of Adonis.

From the root of *Adonis vernalis* Linné (Bird's Eye).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol.

126. EXTRACTUM ALETRIDIS FLUIDUM.

Fluid Extract of Aletris.

From the rhizome of *Aletris farinosa* Linné (Stargrass).

Process A (see No. 124).—No. 60 powder.
Menstruum: Diluted Alcohol.

127. EXTRACTUM ANGELICÆ RADICIS FLUIDUM.

Fluid Extract of Angelica Root.

From the root of *Angelica Archangelica* Linné (Angelica).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 3 volumes.
Water, 2 volumes.

128. EXTRACTUM APII GRAVEOLENTIS FLUIDUM.

Fluid Extract of Celery.

From the seed of *Apium graveolens* Linné (Celery).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 2 volumes.
Water, 1 volume.

129. EXTRACTUM APOCYNI CANNABINI FLUIDUM.

Fluid Extract of Apocynum Cannabinum.

From the root of *Apocynum cannabinum* Linné (Canadian Hemp).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 2 volumes.
Water, 1 volume.

130. EXTRACTUM ARALIÆ RACEMOSÆ FLUIDUM.

Fluid Extract of Aralia Racemosa.

From the root of *Aralia racemosa* Linné (American Spikenard).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 2 volumes.
Water, 1 volume.

131. EXTRACTUM ARNICÆ FLORUM FLUIDUM.

Fluid Extract of Arnica Flowers.

From the flower heads of *Arnica montana* Linné (Arnica).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

132. EXTRACTUM ASCLEPIADIS TUBEROSÆ FLUIDUM.

Fluid Extract of Asclepias Tuberosa.

From the root of *Asclepias tuberosa* Linné (Pleurisy Root).

Process A (see No. 124).—No. 60 powder.
Menstruum: Diluted Alcohol.

133. EXTRACTUM ASPIDOSPERMATIS FLUIDUM.

Fluid Extract of Aspidosperma.

From the bark of *Aspidosperma Quebracho* Schlechtendahl (Quebracho).

Process B (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 9 fluidounces.
Water, 5 fluidounces.
Glycerin, 2 fluidounces.

134. EXTRACTUM BERBERIDIS VULGARIS FLUIDUM.

Fluid Extract of Berberis Vulgaris.

From the bark of the root of *Berberis vulgaris* Linné (Barberry).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 3 volumes.
Water, 2 volumes.

135. EXTRACTUM BOLDI FLUIDUM.

Fluid Extract of Boldo.

From the leaves of *Peumus Boldus* Molina (Boldo).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 2 volumes.
Water, 1 volume.

136. EXTRACTUM BUCHU FLUIDUM COMPOSITUM.

Compound Fluid Extract of Buchu.

Buchu	10	troy ounces.
Cubeb	2	" "
Juniper	2	" "
Uva Ursi	2	" "

Process A (see No. 124).—No. 40 powder.
Menstruum: Alcohol, 2 volumes.
Water, 1 volume.

137. EXTRACTUM CALENDULÆ FLUIDUM.

Fluid Extract of Calendula.

From the flowering herb of *Calendula officinalis* Linné (Marigold).

Process A (see No. 124).—No. 40 powder.
Menstruum: Alcohol, 2 volumes.
Water, 1 volume.

138. EXTRACTUM CAMELLIÆ FLUIDUM.

Fluid Extract of Camellia.

From the commercial dried leaves of *Camellia Thea* Link (Tea).

Process B (see No. 124).—No. 40 powder.
Menstruum I: Alcohol, 4 fluidounces.
Water, 11 fluidounces.
Glycerin, 1 fluidounce.
Menstruum II: Alcohol, 1 volume.
Water, 3 volumes.

Note.—It is recommended that the best quality of commercial black tea, preferably "Formosa Oolong," be employed for this preparation.

139. EXTRACTUM CAULOPHYLLI FLUIDUM.

Fluid Extract of Caulophyllum.

From the rhizome and rootlets of *Caulophyllum thalictroides* Michaux (Blue Cohosh).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 3 volumes.
Water, 1 volume.

140. EXTRACTUM COFFEÆ VIRIDIS FLUIDUM.

Fluid Extract of Green Coffee.

From the commercial, unroasted seeds of *Coffea arabica* Linné (Coffee).

Process B (see No. 124).—No. 20 powder.
Menstruum I: Alcohol, 4 fluidounces.
Water, 11 fluidounces.
Glycerin, 1 fluidounce.
Menstruum II: Alcohol, 1 volume.
Water, 3 volumes.

Note.—It is recommended that the best quality of either of the commercial varieties known as "Java," or "Mocha" Coffee be employed for this preparation.

141. EXTRACTUM COFFEÆ TOSTÆ FLUIDUM.

Fluid Extract of Roasted Coffee.

From the commercial, roasted seeds of *Coffea arabica* Linné (Coffee).

Process B (see No. 124).—No. 20 powder.
Menstruum I: Alcohol, 4 fluidounces.
Water, 11 fluidounces.
Glycerin, 1 fluidounce.
Menstruum II: Alcohol, 1 volume.
Water, 3 volumes.

Note.—See the note to the preceding.

142. EXTRACTUM CONVALLARIÆ FLORUM FLUIDUM.

Fluid Extract of Convallaria Flowers.

From the flowers of *Convallaria majalis* Linné (Lily of the Valley).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

143. EXTRACTUM CONVALLARIÆ RADICIS FLUIDUM.

Fluid Extract of Convallaria Root.

From the rhizome of *Convallaria majalis* Linné (Lily of the Valley).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 3 volumes.
Water, 2 volumes.

144. EXTRACTUM COPTIS FLUIDUM.

Fluid Extract of Coptis.

From the rhizome and rootlets of *Coptis trifolia* Salisbury (Goldthread).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

145. EXTRACTUM CORNUS CIRCINATÆ FLUIDUM.

Fluid Extract of Cornus Circinata

From the bark of *Cornus circinata* L'Héritier (Green Osier).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

146. EXTRACTUM CORYDALIS FLUIDUM.

Fluid Extract of Corydalis.

From the tubers of *Dicentra canadensis* De Candolle (Turkey Corn).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 3 volumes.
Water, 1 volume.

147. EXTRACTUM COTO FLUIDUM.

Fluid Extract of Coto.

From Coto bark, derived from an undetermined tree, native of tropical South America.

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 9 volumes.
Water, 1 volume.

148. EXTRACTUM ERIODICTYI FLUIDUM.

Fluid Extract of Eriodictyon.

From the leaves of *Eriodictyon californicum* Bentham (Mountain Balm; Yerba Santa).

Process A (see No. 124).—No. 40 powder.
Menstruum: Alcohol, 3 volumes.
Water, 1 volume.

149. EXTRACTUM FERRI POMATUM.

Ferrated Extract of Apples.

Ferri Malas Crudus. Crude Malate of Iron.

Iron, in the form of fine, bright wire, and cut	1 part.
Ripe Sour Apples	50 parts.
Water	a sufficient quantity.

Convert the Sour Apples into a homogeneous pulp by pounding or grinding, and express the liquid portion. Then mix the latter

with the Iron in an enameled or porcelain vessel, macerate for forty-eight hours, and then apply the heat of a water-bath, until no more bubbles of gas are given off, adding a little water from time to time to make up any loss by evaporation. Dilute the liquid with Water to make it weigh *fifty* (50) *parts*, and set it aside for a few days. Then filter, and evaporate the filtrate in the before-mentioned vessel to a thick extract, which should be greenish-black, and should yield a clear solution with water.

Note.—This preparation is inserted here with the title under which it is contained in the German Pharmacopœia. In some others it is called more correctly, *Extractum Pomi* (or *Pomorum*) *Ferratum.*

150. EXTRACTUM FUCI FLUIDUM.

Fluid Extract of Fucus.

From the thallus of *Fucus vesiculosus* Linné (Bladder-wrack)

Process A (see No. 124).—No. 40 powder.

Menstruum: Alcohol, 3 volumes.
Water, 1 volume.

151. EXTRACTUM GLYCYRRHIZÆ DEPURATUM.

Purified Extract of Glycyrrhiza.

Purified Extract of Liquorice.

Extract of Glycyrrhiza, in sticks.
Water, each . . . . . a sufficient quantity.

Put a layer of well-washed rye-straw over the bottom of a keg or other suitable tall vessel. Then put a single layer of sticks of Extract of Glycyrrhiza, broken into coarse pieces, over it. Continue to put in alternate layers of straw and Extract of Glycyrrhiza until the vessel is full or the whole of the Extract has been disposed of. Fill the vessel with cold Water, and allow it to remain for three days. Then draw off the solution which has formed, by means of a faucet, or siphon, or otherwise, refill the vessel with cold Water, and proceed as before. Mix the several solutions obtained, allow any suspended matter to subside, decant the clear solution, and strain the remainder without pressure. Finally evaporate the liquid on a water-bath to the consistence of a pilular extract.

Note.—Purified Extract of Glycyrrhiza should not be confounded with the officinal Pure Extract of Glycyrrhiza (*Extractum Glycyrrhizæ Purum*).

152. EXTRACTUM HELIANTHEMI FLUIDUM.

Fluid Extract of Helianthemum.

From the herb of *Helianthemum canadense* Michaux (Frost-wort).

Process A (see No 124).—No. 40 powder.

Menstruum: Diluted Alcohol.

153. EXTRACTUM HUMULI FLUIDUM.

Fluid Extract of Hops.

From the strobiles of *Humulus Lupulus* Linné (Hops).

Process A (see No. 124).—No. 20 powder.
Menstruum: Alcohol, 5 volumes.
Water, 3 volumes.

154. EXTRACTUM HYDRANGEÆ FLUIDUM.

Fluid Extract of Hydrangea.

From the root of *Hydrangea arborescens* Linné (Seven Barks).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 3 volumes.
Water, 2 volumes.

155. EXTRACTUM JALAPÆ FLUIDUM.

Fluid Extract of Jalap.

From the tuberous root of *Exogonium Purga* Bentham (Jalap).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol.

156. EXTRACTUM JUGLANDIS FLUIDUM.

Fluid Extract of Juglans.

From the inner bark of the root of *Juglans cinerea* Linné (Butternut).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

157. EXTRACTUM JUNIPERI FLUIDUM.

Fluid Extract of Juniper.

From the fruit of *Juniperus communis* Linné (Juniper).

Process A (see No. 124).—No. 10 powder.
Menstruum: Diluted Alcohol.

158. EXTRACTUM KAVÆ FLUIDUM.

Fluid Extract of Kava.

From the root of *Piper methysticum* Forster (Kava; Kava-kava; Ava).

Process A (see No. 124).—No. 40 powder.
Menstruum: Alcohol, 3 volumes.
Water, 2 volumes.

159. EXTRACTUM LAPPÆ FLUIDUM.

Fluid Extract of Lappa.

From the root of *Lappa officinalis* Albioni (Burdock).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

160. EXTRACTUM MALTI FLUIDUM.

Fluid Extract of Malt.

Malt . . . . . 16 troy ounces.
Alcohol,
Water, each . . . . . a sufficient quantity.

Reduce the Malt to a coarse powder, not finer than No. 20. Moisten it with *eight* (8) *fluidounces* of a mixture of *one* (1) *volume* of Alcohol and *three* (3) *volumes* of Water, and set it aside, well-covered, until it has ceased to swell. Then mix it with as much of the menstruum as it will take up without dripping, pack it uniformly, but without pressure, in a percolator, and add enough of the beforementioned menstruum to cover it. When the liquid begins to drop from the orifice, close the latter, and allow the contents to macerate during twenty-four hours, adding from time to time more menstruum, if necessary, to keep the malt just covered. Then remove the cork and allow the percolation to proceed until the percolate weighs *twelve* (12) *troy ounces.* Set this aside, well-corked, until any suspended matters have been deposited. Then decant the clear liquid and preserve it for use.

Note.—The product thus obtained may be regarded as being practically equivalent to the drug in the proportion of minim for grain, the apparent excess of dissolved matters present in the first portions of the percolate being about offset by the soluble matters still remaining in the drug, when the percolation is interrupted.

161. EXTRACTUM MENYANTHIS FLUIDUM.

Fluid Extract of Menyanthes.

From the leaves of *Menyanthes trifoliata* Linné (Buckbean.—Trifolium fibrinum *Germ. Pharm.*)

Process A (see No. 124).—No. 20 powder.
Menstruum: Diluted Alcohol.

162. EXTRACTUM PETROSELINI RADICIS FLUIDUM.

Fluid Extract of Parsley Root.

From the root of *Petroselinum sativum* Hoffmann (Parsley).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

163. EXTRACTUM PHYTOLACCÆ FLUIDUM.

Fluid Extract of Phytolacca.

From the root of *Phytolacca decandra* Linné (Poke Root).

Process A (see No. 124).—No. 60 powder.
Menstruum: Alcohol, 2 volumes.
Water, 1 volume.

164. EXTRACTUM QUILLAJÆ FLUIDUM.

Fluid Extract of Quillaja.

From the bark of *Quillaja Saponaria* Molina (Soap-Bark).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

165. EXTRACTUM RHAMNI PURSHIANÆ FLUIDUM.

Fluid Extract of Rhamnus Purshiana.

From the bark of *Rhamnus Purshiana* De Candolle (Cascara Sagrada).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

166. EXTRACTUM RHEI FLUIDUM AROMATICUM.

Aromatic Fluid Extract of Rhubarb.

Rhubarb	12	troy ounces.
Cinnamon	2½	" "
Cloves	2½	" "
Nutmeg	1⅛	troy ounce.

Reduce the drugs to a moderately coarse (No. 40) powder, and prepare a Fluid Extract, using the below-mentioned Process and Menstruum:

Process A (see No. 124).
Menstruum: Diluted Alcohol.

Note.—If 1 fluidounce of this preparation is mixed with 15½ fluidounces of Syrup, the product will be practically identical with the officinal *Syrupus Rhei Aromaticus.*

167. EXTRACTUM SCOPARII FLUIDUM.

Fluid Extract of Scoparius.

From the tops of *Sarothamnus Scoparius* Koch (Broom).

Process A (see No. 124).—No. 40 powder.
Menstruum: Alcohol, 2 volumes.
Water, 1 volume.

168. EXTRACTUM SENNÆ FLUIDUM DEODORATUM.

Deodorized Fluid Extract of Senna.

Senna, in No. 60 powder . . . . . 16 troy ounces.
Alcohol,
Water, each . . . . . a sufficient quantity.

Moisten the Senna with *six* (6) *fluidounces* of Alcohol, pack it firmly in a percolator, and percolate it with Alcohol until it is practically exhausted by this menstruum. The alcoholic percolate thus obtained is rejected, and the alcohol may be recovered therefrom by distillation. Then take out the moist powder, dry it, and prepare a Fluid Extract by the Process and Menstruum below-mentioned:

Process A (see No. 124).
Menstruum: Alcohol, 1 volume.
Water, 1 volume.

169. EXTRACTUM STERCULIÆ FLUIDUM.

Fluid Extract of Sterculia.

From the seeds of *Sterculia acuminata* R. Brown (Cola; Kola).

Process B (see No. 124).—No. 20 powder.
Menstruum I: Alcohol, 4 fluidounces.
Water, 11 fluidounces.
Glycerin, 1 fluidounce.
Menstruum II: Alcohol, 1 volume.
Water, 3 volumes.

170. EXTRACTUM STILLINGIÆ FLUIDUM COMPOSITUM.

Compound Fluid Extract of Stillingia.

Stillingia	4	troy ounces.
Corydalis (root)	4	" "
Iris	2	" "
Sambucus	2	" "
Chimaphila	2	" "
Coriander	1	troy ounce.
Xanthoxylum Berries	1	" "

Reduce the drugs to a moderately coarse (No. 40) powder, and prepare a Fluid Extract in the usual manner, by the Process and Menstrua below mentioned.

Process B (see No. 124).
Menstruum I: Alcohol, 8 fluidounces.
Glycerin, 4 fluidounces.
Water, 4 fluidounces.
Menstruum II: Diluted Alcohol.

171. EXTRACTUM TRILLII FLUIDUM.

Fluid Extract of Trillium.

From the rhizome of *Trillium erectum* Linné, and other species of *Trillium* (Bethroot).

Process A (see No. 124).—No. 40 powder.
Menstruum: Alcohol, 3 volumes.
Water, 2 volumes.

172. EXTRACTUM TURNERÆ FLUIDUM.

Fluid Extract of Turnera.

From the leaves of *Turnera microphylla* De Candolle and other species of *Turnera* (Damiana).

Process A (see No. 124).—No. 20 powder.
Menstruum: Alcohol, 2 volumes.
Water, 1 volume.

173. EXTRACTUM URTICÆ FLUIDUM.

Fluid Extract of Urtica.

From the root of *Urtica dioica* Linné (Nettle).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

174. EXTRACTUM VERBASCI FLUIDUM.

Fluid Extract of Verbascum.

From the leaves and flowers of *Verbascum Thapsus* Linné (Mullein).

Process A (see No. 124).—No. 20 powder.
Menstruum: Diluted Alcohol.

175. EXTRACTUM VERBENÆ FLUIDUM.

Fluid Extract of Verbena.

From the root of *Verbena hastata* Linné (Vervain).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

176. EXTRACTUM VIBURNI OPULI FLUIDUM.

Fluid Extract of Viburnum Opulus.

From the bark of *Viburnum Opulus* Linné (Cramp Bark).

Process A (see No. 124).—No. 40 powder.
Menstruum: Alcohol, 2 volumes.
Water, 1 volume.

177. EXTRACTUM ZEÆ FLUIDUM.

Fluid Extract of Zea.

Extractum Stigmatum Maydis Fluidum. Fluid Extract of Corn Silk.

From the stigmata of *Zea Mays* Linné (Indian Corn).

Process A (see No. 124).—No. 40 powder.
Menstruum: Diluted Alcohol.

178. FERRI ET QUININÆ CITRAS EFFERVESCENS.

Effervescent Citrate of Iron and Quinine.

Citrate of Iron and Quinine	20 parts.
Bicarbonate of Sodium	600 "
Tartaric Acid	540 "
Sugar, in very fine powder	620 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

If the compound is required in form of a granular powder, mix it with Alcohol to a soft paste, and rub this through a No. 20 tinned-iron sieve, or enamelled colander. Then dry it, and reduce it to a coarse, granular powder.

Ninety (90) grains (or about a heaped teaspoonful) of the above compound represent 1 grain of Citrate of Iron and Quinine.

179. FERRI HYPOPHOSPHIS.

Hypophosphite of Iron.

Ferric Hypophosphite.

Sulphate of Iron and Ammonium (U. S. P.), in perfect crystals	77 parts.
Hypophosphite of Sodium	51 "
Distilled Water	a sufficient quantity.

Dissolve the Sulphate of Iron and Ammonium in *three hundred* (300) *parts*, and the Hypophosphite of Sodium in *one hundred* (100) *parts* of Distilled Water, and, if necessary, filter each solution. Then mix them, and stir thoroughly; after a short time transfer the mixture to a close linen or muslin strainer, and wash the precipitate with Distilled Water, until the washings run off tasteless. Transfer the strainer to a warm place and, when the contents are dry, preserve them for use.

Hypophosphite of Iron (ferric) may also be prepared in the following manner:

Hypophosphite of Calcium	1 part.
Solution of Chloride of Iron (U. S. P.)	
Distilled Water	each, a sufficient quantity.

Dissolve the Hypophosphite of Calcium in *twelve* (12) *parts* of Distilled Water, and filter the solution. To this add Solution of

Chloride of Iron, in small portions, stirring well each time and allowing the precipitate to subside before adding a fresh portion. Toward the end, remove a small quantity of the clear supernatant liquid, add to it some Solution of Chloride of Iron diluted with about *ten* (10) *times* its volume of Water, and observe whether any turbidity occurs either at once or after a few minutes. If it remains clear, the precipitation may be regarded as complete. Then transfer the mixture to a close linen or muslin strainer, and wash the precipitate with Distilled Water, until the washings run off tasteless. Transfer the strainer to a warm place and, when the contents are dry, preserve them for use.

Note.—Hypophosphite of Iron is rendered soluble in water by mixing it with about an equal weight of citrate of potassium, or some other alkali citrate. Theoretically, 100 parts of Sulphate of Iron and Ammonium will yield 51.9 parts, and 100 parts of Hypophosphite of Calcium will yield 85.3 parts of dry Hypophosphite of Iron (ferric).

180. FERRI PHOSPHAS EFFERVESCENS.

Effervescent Phosphate of Iron.

Phosphate of Iron (U. S. P. 1880)	40 parts.
Bicarbonate of Sodium	600 "
Tartaric Acid	540 "
Sugar, in very fine powder	620 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

If the compound is required in form of a granular powder, mix it with Alcohol to a soft paste, and rub this through a No. 20 tinned-iron sieve or enamelled colander. Then dry it, and reduce it to a coarse, granular powder.

Ninety (90) grains (or about a heaped teaspoonful) of the above compound represent 2 grains of Phosphate of Iron.

181. GELATINUM CHONDRI.

Irish Moss Gelatin.

Irish Moss	1 part.
Water	a sufficient quantity.

Wash the Irish Moss with cold Water, then place it in a suitable vessel, add *fifty* (50) *parts* of hot Water, and heat it on a boiling water-bath, for fifteen minutes, frequently stirring. Strain the decoction, while hot, through a strong muslin strainer; return the strained, mucilaginous liquid to the water-bath, evaporate it to a semi-fluid consistence, then transfer it to shallow, flat-bottomed

trays, and evaporate it at a temperature not exceeding 90° C. (194° F.), so that the Gelatin may become detached in scales.

Note.—Irish Moss Gelatin thus prepared furnishes a Mucilage of Irish Moss which is opaque, like that made directly from the Moss itself. It may be prepared so as to yield a transparent mucilage by following the plan pointed out in the *Note* to *Mucilago Chondri.*

182. GLYCERITUM ACIDI TANNICI.

Glycerite of Tannic Acid.

Tannic Acid	1 part.
Glycerin	5 parts.

Mix them in a porcelain or enamelled capsule, avoiding contact with metallic utensils, and apply the heat of a water-bath, until complete solution has taken place. Then transfer the solution to bottles.

Note.—The product will be practically identical in strength with the preparation officinal in the U. S. P. of 1870, which was directed to be made from 1 troy ounce of Tannic Acid and 4 fluidounces of Glycerin.

183. GLYCERITUM BISMUTHI.

Glycerite of Bismuth.

Liquor Bismuthi Concentratus. Concentrated Solution of Bismuth.

Subnitrate of Bismuth	1480 grains.
Nitric Acid	4 troy ounces.
Citric Acid	1200 grains.
Water of Ammonia	a sufficient quantity.
Glycerin	8 fluidounces.
Water	enough to make 16 "

Dissolve the Subnitrate of Bismuth in the Nitric Acid mixed with an equal volume of Water. Add the Citric Acid previously dissolved in *four* (4) *fluidounces* of Water. Divide the solution into two equal portions. To one portion add Water of Ammonia until the precipitate first formed is redissolved, and then dilute with Water to *eight* (8) *pints.* To this add the reserved portion, stirring constantly. Let the mixture stand about six hours, then transfer it to a paper filter, inside of a muslin strainer, both being folded together. Wash the precipitate with Water, until it is free from Nitric Acid, and by gentle pressure remove as much of the Water as possible. Dissolve the precipitate in a sufficient quantity of Water of Ammonia, evaporate the solution on the water-bath, in a tared capsule, to *eight* (8) *troy ounces*, then transfer it to a graduate, allow it to cool and wash the capsule with a little Water so as to make the whole volume of liquid measure *eight* (8) *fluidounces.* Finally add the Glycerin, and filter, if necessary.

Glycerite of Bismuth, when required for immediate use, may also be prepared as follows:

Citrate of Bismuth and Ammonium	2048 grains.
Stronger Water of Ammonia	a sufficient quantity.
Glycerin	8 fluidounces.
Water	enough to make 16 fluidounces.

Triturate the Citrate of Bismuth and Ammonium with *six* (6) *fluidounces* of Water and *four* (4) *fluidounces* of Glycerin, and add to it gradually just enough Stronger Water of Ammonia to dissolve the salt, and to produce a neutral solution. Then add the remainder of the Glycerin and enough Water to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm contains 16 grains of Citrate of Bismuth and Ammonium.

Note.—When this preparation is directed as an ingredient in other preparations, which are required to be filtered when completed, it may be added to them without previous filtration.

If Glycerite of Bismuth should at any time deposit a precipitate, this may be redissolved by the addition of just sufficient Stronger Water of Ammonia.

184. GLYCERITUM BOROGLYCERINI.

Glycerite of Boroglycerin.

Glycerite of Glyceryl Borate. Solution of Boroglyceride.

Boric Acid, in powder	62 parts.
Glycerin	enough to make 200 "

Heat *ninety-two* (92) *parts* of Glycerin, in a tared porcelain capsule to a temperature not exceeding 150° C. (302° F.), and add the Boric Acid, in portions, constantly stirring. When all is added and dissolved, continue the heat at the same temperature, frequently stirring, and breaking up the film which forms on the surface. When the mixture has been reduced to the weight of *one hundred* (100) *parts*, add to it *one hundred* (100) *parts* of Glycerin, mix thoroughly, and transfer it to suitable vessels.

Two parts, by weight, of this preparation represent 1 part of solid Boroglycerin.

Note.—The product, which is a clear, viscid liquid, is more readily soluble in, and miscible with, other liquids than the solid Boroglycerin (see *Boroglycerinum.*)

185. GLYCERITUM HYDRASTIS.

Glycerite of Hydrastis.

Hydrastis, in fine powder	16 troy ounces.
Glycerin	8 fluidounces.
Alcohol	a sufficient quantity.
Water	enough to make 16 fluidounces.

Moisten the Hydrastis with *six* (6) *fluidounces* of Alcohol, pack it

firmly in a percolator, and percolate with Alcohol until the Hydrastis is practically exhausted. To the percolate add *four* (4) *fluidounces* of Water, and then remove the Alcohol by evaporation or distillation. After the Alcohol is driven off, add enough Water to the residue to make it measure *eight* (8) *fluidounces*, set it aside for twenty-four hours, then filter, pass enough Water through the filter to make the filtrate measure *eight* (8) *fluidounces*, and lastly add the Glycerin.

186. GLYCERITUM PEPSINI.

Glycerite of Pepsin.

Pepsin (N. F.)	640 grains.
Hydrochloric Acid	80 minims.
Purified Talcum	120 grains.
Glycerin	8 fluidounces.
Water	enough to make 16 fluidounces.

Mix the Pepsin with *seven* (7) *fluidounces* of Water and the Hydrochloric Acid, and agitate until solution has been effected. Then incorporate the Purified Talcum with the liquid, filter, returning the first portions of the filtrate until it runs through clear, and pass enough Water through the filter to make the filtrate measure *eight* (8) *fluidounces*. To this add the Glycerin, and mix.

Each fluidrachm represents 5 grains of Pepsin (N. F.).

Note.—For filtering the aqueous solution of Pepsin first obtained by the above formula, as well as for filtering other liquids of a viscid character, a filter paper of loose texture (preferably that known as "Textile Filtering Paper"), or a layer of absorbent cotton placed in a funnel, or percolator, should be employed.

187. GLYCERITUM PICIS LIQUIDÆ.

Glycerite of Tar.

Tar	1 troy ounce.
Carbonate of Magnesium	2 troy ounces.
Glycerin	4 fluidounces.
Alcohol	2 "
Water	enough to make 16 "

Upon the Tar, contained in a mortar, pour *three* (3) *fluidounces* of cold Water, stir them thoroughly together, and pour off the Water. Repeat this once or twice, until the Water only feebly reddens blue litmus-paper. Now triturate the washed Tar with the Alcohol, gradually incorporate the Carbonate of Magnesium and Glycerin, and lastly, *ten* (10) *fluidounces* of Water. Pour the mixture upon a filter of loose texture spread over a piece of straining muslin, and, after the liquid portion has passed through, wash the residue on the filter with Water, until the whole filtrate measures *sixteen* (16) *fluidounces*.

Note.—Regarding filters of loose texture, see the Note to No. 186.

188. GLYCERITUM TRAGACANTHÆ.

Glycerite of Tragacanth.

Tragacanth, in fine powder	2 troy ounces.
Glycerin	12½ fluidounces.
Water	3 fluidounces.

Triturate the Tragacanth with the Glycerin in a mortar, add the Water, and continue the trituration, until a homogeneous, thick paste results.

Note.—The *Glycerinum Tragacanthæ* of the British Pharm. is prepared by mixing 3 troy ounces of Tragacanth with 12 fluidounces of Glycerin in a mortar, adding 2 fluidounces of Water, and triturating until a translucent, homogeneous jelly is formed.

Mucilago Tragacanthæ of the U. S. Pharm. (1880) is made by mixing 18 parts of Glycerin with 76 parts of Water, heating the mixture to boiling, adding 6 parts of Tragacanth, macerating for twenty-four hours, then adding Water to make 100 parts, beating it to a uniform consistence, and straining.

Unguentum Glycerini of the German Pharm. is prepared by triturating 1 part of powdered Tragacanth with 5 parts (by weight) of Alcohol (of about 91%), then adding 50 parts of Glycerin, and heating on a steam-bath.

189. COSSYPIUM STYPTICUM.

Styptic Cotton.

Purified Cotton,
Solution of Chloride of Iron,
Glycerin,
Water . . . . . each, a sufficient quantity.

Mix the liquids in the proportion of *five* (5) *parts* of the Iron Solution, *one* (1) *part* of Glycerin, and *four* (4) *parts* of Water, in such quantities that the Purified Cotton shall be completely immersed in the liquid when gently pressed. Allow the Cotton to remain in the liquid one hour, then remove it, press it, until it has been brought to *twice* its original weight, spread it out in thin layers, in a warm place, protected from dust and light, and when it is sufficiently dry, transfer it to well-closed receptacles.

190. INFUSUM GENTIANÆ COMPOSITUM FORTIUS.

Stronger Compound Infusion of Gentian.

Gentian	2 troy ounces.
Coriander	½ troy ounce.
Bitter Orange Peel	½ " "
Diluted Alcohol	enough to make 16 fluidounces.

Reduce the drugs to a moderately coarse (No. 40) powder, moisten it with Diluted Alcohol, pack it in a percolator, and percolate with Diluted Alcohol, until *sixteen* (16) *fluidounces* are obtained.

Note.—When *Infusum Gentianæ Compositum* is prescribed, mix 1 volume of this preparation with 3 volumes of water.

191. INFUSUM ROSÆ COMPOSITUM.

Compound Infusion of Rose.

Red Rose	96 grains.
Diluted Sulphuric Acid	70 minims.
Sugar	300 grains.
Boiling Water	16 fluidounces.

Pour the Boiling Water upon the Rose in a glass or porcelain vessel, add the Acid, cover the vessel, and macerate for an hour. Then dissolve the Sugar in the liquid and strain.

192. IODOFORMUM AROMATISATUM.

Aromatized Iodoform.

Deodorized Iodoform.

Iodoform	25 parts.
Cumarin	1 part.

Mix them intimately by trituration.

Note.—Should cumarin not be available, or should it be objectionable to the patient, the odor of Iodoform may also be more or less masked by many essential oils, for instance those of peppermint, cloves, cinnamon, citronella, bergamot, sassafras, eucalyptus, etc. Another efficient covering agent is freshly-roasted, and powdered coffee.

The odor of Iodoform may be removed from the hands or any utensils which it has come in contact with, by washing them with an aqueous solution of tannic acid.

193. LAC FERMENTATUM.

Fermented Milk.

Kumyss.

Cow's Milk, fresh	32 fluidounces.
Yeast, semi-liquid	60 minims.
Sugar	1 troy ounce.

Dissolve the Sugar in the Milk, contained in a strong bottle, add the Yeast, cork the bottle securely and keep it at a temperature between 23° and 32° C. (75° to 90° F.), for six hours; then transfer it to a cold place.

194. LINIMENTUM ACONITI ET CHLOROFORMI.

Liniment of Aconite and Chloroform.

Tincture of Aconite	2 fluidounces.
Chloroform	2 "
Soap Liniment	12 "

Mix them.

195. LINIMENTUM AMMONII IODIDI.

Liniment of Iodide of Ammonium.

Iodine	30 grains.
Oil of Rosemary	110 minims.
Oil of Lavender	110 "
Camphor	220 grains.
Water of Ammonia	1¾ fluidounces.
Alcohol	enough to make 16 "

Dissolve the Iodine, the Oils and the Camphor, in *twelve* (12) *fluidounces* of Alcohol, then add the Water of Ammonia, and lastly, enough Alcohol to make *sixteen* (16) *fluidounces*.

Note.—On standing, the liquid will become colorless, and there will, usually, be a slight precipitate, which may be separated by filtration.

196. LINIMENTUM IODI.

Iodine Liniment.

Iodine	900 grains.
Iodide of Potassium	360 "
Glycerin	½ fluidounce.
Water	1 fluidounce.
Alcohol	enough to make 16 fluidounces.

Mix *thirteen* (13) *fluidounces* of Alcohol with the other ingredients, and dissolve the solids by agitation. Then add enough Alcohol to make *sixteen* (16) *fluidounces*.

Note.—The proportion of the ingredients above given yields a product practically identical with that prescribed by the *British Pharmacopœia*.

197. LINIMENTUM OPII COMPOSITUM.

Compound Liniment of Opium.

Canada Liniment.

Tincture of Opium	1½ fluidounces.
Camphor	120 grains.
Alcohol	4 fluidounces.
Oil of Peppermint	180 minims.
Water of Ammonia	6 fluidounces.
Oil of Turpentine	enough to make 16 "

Dissolve the Camphor and the Oil of Peppermint in the Alcohol, then add the Tincture of Opium, Water of Ammonia and Oil of Turpentine. Shake the mixture, whenever any of it is to be dispensed.

Note.—This Liniment will separate a short time after it has been mixed. It may be made somewhat more permanent by adding 180 minims of Tincture of Quillaja (N. F.) to the Water of Ammonia, before adding it to the mixture.

198. LINIMENTUM SAPONATO-CAMPHORATUM.

Camphorated Soap Liniment.

Opodeldoc. Solid Opodeldoc.

White Castile Soap, dried and powdered	1½ troy ounces.
Camphor	½ troy ounce.
Alcohol	20 fluidounces.
Oil of Thyme	30 minims.
Oil of Rosemary	60 "
Stronger Water of Ammonia (U. S. P.)	1 fluidounce.

Introduce the Castile Soap, Camphor, and Alcohol, into a flask or suitable bottle, and apply a gentle heat until solution is effected, taking care that no loss of Alcohol be incurred by evaporation. Filter the liquid, while hot, into another flask or bottle; warm again, if necessary, to render the contents liquid, add the Oils and Stronger Water of Ammonia, and when the whole has been thoroughly mixed, pour it into small dry vials, which should have been previously warmed, and should immediately be corked and cooled.

Note.—The quantity above given is usually divided into 12 vials. Solid Opodeldoc is directed by the *German Pharm.* to be prepared with soap made from animal fats; but pure, white Castile Soap may be used, provided it has been previously deprived of water. The Stronger Water of Ammonia should be of the full strength prescribed by the *U. S. Pharm*

199. LINIMENTUM TEREBINTHINÆ ACETICUM.

Acetic Turpentine Liniment.

Linimentum Album. Stokes' Liniment. St. John Long's Liniment.

Oil of Turpentine	3 fluidounces.
Fresh Egg, albumen and yolk	1 (one)
Oil of Lemon	60 minims.
Acetic Acid (U. S. P.)	300 "
Rose Water	2½ fluidounces.

Triturate or beat the contents of the Fresh Egg with the Oil of Turpentine and the Oil of Lemon in a mortar until they are thoroughly mixed. Then incorporate the Acetic Acid and Rose Water. Shake the mixture, whenever any of it is to be dispensed.

200. LINIMENTUM TIGLII.

Liniment of Croton Oil.

Linimentum Crotonis (Brit. Ph.)

Croton Oil	2 fluidrachms.
Oil of Cajuput	7 "
Alcohol	7 "

Mix them.

201. LINIMENTUM TIGLII COMPOSITUM.

Compound Croton Oil Liniment.

Croton Oil	1 fluidounce.
Oil of Sassafras	1 "
Oil of Turpentine	1 "
Oil of Olive	2 fluidounces.

Mix them.

202. LIQUOR ACIDI PHOSPHORICI COMPOSITUS.

Compound Solution of Phosphoric Acid.

Solution of Acid Phosphates.

Bone Ash, in fine powder	100 parts.
Sulphuric Acid	78 "
Water	400 "

Mix the Bone Ash with *one hundred* (100) *parts* of Water, add the Sulphuric Acid, diluted with *two hundred* (200) *parts* of Water, and mix thoroughly with a porcelain or glass stirrer. Now add the remainder of the Water and set the mixture aside for twenty-four hours, stirring occasionally. Then transfer the mixture to a strong muslin strainer, and subject this to a gradual pressure (avoiding contact with metals), so as to express as much of the liquid as possible. Lastly, filter this through paper.

The specific gravity of this solution is about 1.113 at 15° C. (59° F.)

Note.—The quantity of product obtained depends on the degree of force used in pressing. By strong pressure, about 350 parts may be obtained. If desired, the magma may also be poured in a glass percolator, the neck of which contains a layer of fine quartz sand or asbestos, previously deprived of matters soluble in sulphuric or phosphoric acids. On cautiously pouring water on top, so as not to mix it with the magma, the acid solution will be displaced. But the percolation must be interrupted as soon as the specific gravity of the percolate begins to fall below 1.113. The Sulphuric Acid used in this preparation may be the commercial variety, provided it is free from arsenic, and of a specific gravity not less than 1.830.

203. LIQUOR ALUMINII ACETATIS.

Solution of Acetate of Aluminium.

Sulphate of Aluminium, crystallized	30 parts.
Acetic Acid (U. S. P.)	30 "
Carbonate of Calcium	13 "
Water	100 "

Dissolve the Carbonate of Calcium in the Acetic Acid mixed with *twenty* (20) *parts* of Water, and the Sulphate of Aluminium in *eighty* (80) *parts* of Water. Mix the two solutions, and allow the mixture

to stand for twenty-four hours, agitating occasionally. Then pour off the clear solution and filter.

The Solution contains from 7.5 to 8 per cent. of basic Acetate of Aluminium.

Note.—Practically identical with the *Liquor Aluminii Acetici* of the German Pharm.

204. LIQUOR ALUMINII ACETICO-TARTRATIS.

Solution of Acetico-Tartrate of Aluminium.

Alum (U. S. P.)	150 parts.
Carbonate of Sodium	140 "
Glacial Acetic Acid	30 "
Tartaric Acid	27 "
Water	enough to make 200 "

Dissolve the Alum and the Carbonate of Sodium, each in *two thousand* (2000) *parts* of Water, mix the solutions, and wash the precipitate, first by decantation, and afterwards on a strainer, until the washings run off tasteless. Allow the precipitate to drain and to shrink in volume by exposure on the strainer. Then transfer it to a tared capsule, add the Glacial Acetic and the Tartaric Acids, and apply heat until solution has been effected. Finally, evaporate the liquid to *two hundred* (200) *parts*.

The product contains about 50 per cent. of dry, so called Acetico-Tartrate of Aluminium.

Note.—The dry salt may be obtained by evaporating the solution.

205. LIQUOR AMMONII ACETATIS CONCENTRATUS.

Concentrated Solution of Acetate of Ammonium.

Acetic Acid (U. S. P.)	16 fluidounces.
Carbonate of Ammonium	a sufficient quantity.
Water	enough to make 32 fluidounces.

Neutralize the Acetic Acid with a sufficient quantity of Carbonate of Ammonium, carefully avoiding an excess. Then add enough Water to make the product measure *thirty-two* (32) *fluidounces*.

Note.—The product is about 4 times the strength of the officinal *Liquor Ammonii Acetatis*.

Note.—It is not recommended to keep this solution on hand for the preparation of the officinal *Liquor Ammonii Acetatis*, as this is preferably made freshly when wanted for use. When it is, however, required, or deemed of advantage, to dispense the concentrated solution, it is suggested that it be diluted with Carbonic Acid Water, or be directed to be diluted with this at the time of administration.

206. LIQUOR AMMONII CITRATIS FORTIOR.

Stronger Solution of Citrate of Ammonium.

Citric Acid	9 troy ounces.
Stronger Water of Ammonia, Water, each	a sufficient quantity.

Neutralize the Citric Acid with the Stronger Water of Ammonia, and add enough Water to make *sixteen* (16) *fluidounces*. The solution should be kept in bottles free from lead.

Each fluidrachm contains about 40 grains of Citrate of Ammonium.

Note.—This Solution is apt to take up notable quantities of lead, if kept in bottles made of flint glass.

Liquor Ammonii Citratis (Brit. Pharm.) may be prepared from this solution by mixing 1 volume of it with 4 volumes of Water.

207. LIQUOR BISMUTHI.

Solution of Bismuth.

Liquid Bismuth.

Glycerite of Bismuth	2 fluidounces.
Alcohol	2 "
Distilled Water	12 "

Mix the Glycerite of Bismuth with *twelve* (12) *fluidounces* of Distilled Water, then add the Alcohol.

Solution of Bismuth may also be prepared in the following manner:

Citrate of Bismuth and Ammonium	128 grains.
Alcohol	2 fluidounces.
Water of Ammonia	a sufficient quantity.
Distilled Water	enough to make 16 fluidounces.

Dissolve the Citrate of Bismuth and Ammonium in *thirteen* (13) *fluidounces* of Distilled Water, and allow the solution to stand a short time. Should any insoluble matter have deposited, pour off the clear liquid and add just enough Water of Ammonia to the residue to dissolve it, or to cause it to retain a faint odor of Ammonia. Then filter the united liquids, add the Alcohol, and enough Distilled Water to make *sixteen* (16) *fluidounces*.

This preparation should be freshly made when wanted for use.

Each fluidrachm represents 1 grain of Citrate of Bismuth and Ammonium.

208. LIQUOR BROMI.

Solution of Bromine.

Smith's Solution of Bromine.

Bromine	1 troy ounce.
Bromide of Potassium	½ " "
Water	4 fluidounces.

Dissolve the Bromide of Potassium in the Water contained in a

bottle, add the Bromine, and shake the mixture until this is dissolved. Keep the solution in glass-stoppered vials in a dark place.

Note.—As bromine vapor is very injurious to the respiratory passages and destructive to balances, it is often preferable to take the contents of an original bottle of Bromine—weighing the bottle, both before opening it and after emptying it, in order to ascertain the exact weight of the Bromine contained therein—and then to use a quantity of Bromide of Potassium and of Water proportionate to the quantities above given.

209. LIQUOR CALCIS SULPHURATÆ.

Solution of Sulphurated Lime.

Solution of Oxysulphuret of Calcium. Vleminck's Solution (or *Lotion*).

Lime, freshly slaked	2 parts.
Sublimed Sulphur	3 "
Water, enough to make	12 "

Mix the slaked Lime with the Sulphur, and add the mixture gradually to *twenty* (20) *parts* of boiling Water. Then boil the whole, under constant stirring, until it is reduced to *twelve* (12) *parts*, strain, and having allowed the solution to become clear by standing in a well-stoppered bottle, decant the clear brown liquid, and keep it in completely filled and well-stoppered bottles.

210. LIQUOR CARMINI.

Solution of Carmine.

Carmine	1 troy ounce.
Water of Ammonia	6 fluidounces.
Glycerin	6 "
Water, enough to make	16 "

Triturate the Carmine to a fine powder in a wedgewood mortar, gradually add the Water of Ammonia, and afterwards the Glycerin, under constant trituration. Transfer the mixture to a porcelain capsule, and heat it upon a water-bath, constantly stirring, until the liquid is entirely free from ammoniacal odor. Then cool, and add enough Water to make *sixteen* (16) *fluidounces*.

Note.—The best quality of Carmine, known in commerce as "No. 40," should be used for this preparation.

211. LIQUOR COCCINEUS.

Cochineal Color.

Cochineal, in No. 50 powder	1 troy ounce.
Carbonate of Potassium	½ " "
Alum	½ " "
Bitartrate of Potassium	1 " "
Glycerin	8 fluidounces.
Alcohol	1 fluidounce.
Water, enough to make	16 fluidounces.

Triturate the Cochineal intimately with the Carbonate of Potas-

sium and *eight* (8) *fluidounces* of Water. Then add the Alum and Bitartrate of Potassium successively, heat the mixture to boiling in a capacious vessel, then set it aside to cool, add to it the Glycerin and Alcohol, filter, and pass enough Water through the filter to make *sixteen* (16) *fluidounces*.

212. LIQUOR CUPRI ALKALINUS.

Alkaline Solution of Copper.

Fehling's Solution.

I. *The Copper Solution.*

Sulphate of Copper, pure	34.639 gm.	505 grains.
Distilled Water . . . . . enough to make	500 C.c.	16 fluidounces.

Dissolve the Sulphate of Copper, which before being weighed should have been reduced to powder and pressed between blotting paper, in a sufficient quantity of Distilled Water to produce the volume required by the corresponding formula above given.

II. *The Alkaline Solution.*

Tartrate of Potassium and Sodium	173 gm.	2520 grains.
Soda (U. S. P. 1880)	60 "	2 troy ounces.
Distilled Water . . . . . enough to make	500 C.c.	16 fluidounces.

Dissolve the Tartrate of Potassium and Sodium and the Soda in a sufficient quantity of Distilled Water to produce the volume required by the corresponding formula above given. Set the mixture aside until the suspended impurities have been deposited; then remove the clear solution with a siphon.

Keep both solutions, separately, in small well-stoppered vials, in a cool and dark place. For use, mix exactly equal volumes of the two solutions, by pouring the copper solution into the alkaline solution.

Note.—The two Solutions should be prepared with cold distilled water, and should be made up to their respective volumes at one and the same temperature. They should also be at the same temperature at the time of mixing. On diluting a small quantity of the mixed Reagent with about three volumes of Distilled Water, and heating the liquid in a test-tube to boiling, it should remain entirely clear, without any trace of discoloration or precipitate.

After the Solutions have been mixed for use, and assuming that they have been prepared and mixed at the average indoor temperature, 10 C.c. of the mixture prepared by metric weight and measure correspond to 0.05 gm. of glucose. Of the mixture prepared by apothecaries' weight and measure, 210 minims correspond to 1 grain of glucose.

213. LIQUOR ELECTROPOEICUS.

Battery Fluid.

A. For the Carbon and Zinc Battery.

I. For ordinary use.

Bichromate of Sodium, in coarse powder	6 troy ounces.
Sulphuric Acid, commercial	6 fluidounces.
Water, cold	48 "

Pour the Sulphuric Acid upon the powdered Bichromate, and stir the mixture occasionally during one hour. Then slowly add the Water.

II. For use with the Galvano-Cautery.

Bichromate of Sodium, in coarse powder	6½ troy ounces.
Sulphuric Acid, commercial	14 fluidounces.
Water, cold	48 "

Proceed in the same manner as directed under No. I.

Note.—Bichromate of Sodium is more soluble than the potassium salt, and its products of decomposition, in the battery, are also more soluble. As it is also much cheaper, it is now preferred in all large electric laboratories. When it cannot be obtained, Bichromate of Potassium may be used in place of it, as heretofore. The two salts may be substituted for each other, weight for weight.

B. For the Leclanché Battery.

Chloride of Ammonium	6 troy ounces.
Water	enough to make 20 fluidounces.

Dissolve the salt in the Water.

214. LIQUOR EXTRACTI GLYCYRRHIZÆ.

Solution of Extract of Glycyrrhiza.

Solution of Extract of Liquorice.

Purified Extract of Glycyrrhiza	a sufficient quantity.
Alcohol	2 fluidounces.
Glycerin	4 "
Water	enough to make 16 "

In a small portion of Purified Extract of Glycyrrhiza, weighed into a tared capsule, determine the amount of water, by drying it to a constant weight. Then take of the Purified Extract a quantity equivalent to *four* (4) *troy ounces* of dry extract, dissolve this, on a water-bath, in *four* (4) *fluidounces* of Water, add the Glycerin, and allow the liquid to cool. Lastly add the Alcohol, and enough Water to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents 15 grains of dry Extract of Glycyrrhiza.

215. LIQUOR FERRI HYPOPHOSPHITIS.

Solution of Hypophosphite of Iron.

Solution of Ferric Hypophosphite.

Sulphate of Iron and Ammonium (U. S. P.), in perfect crystals		2464 grains.
Hypophosphite of Sodium		1622 "
Citrate of Potassium		1600 "
Glycerin		2½ fluidounces.
Water	enough to make	16 "

Dissolve the Sulphate of Iron and Ammonium, and the Hypophosphite of Sodium, each, in *twenty-four* (24) *fluidounces* of Water, and, if necessary, filter each solution. Then mix them, and stir thoroughly; after a few minutes transfer the resulting magma to a close linen or muslin strainer, and wash the precipitate with about *eight* (8) *fluidounces* of Water. Allow it to drain, and then press it forcibly in the strainer, so as to remove as much of the liquid as possible. Transfer the precipitate from the strainer to a mortar, add to it the Citrate of Potassium, and triturate until a perfectly smooth paste results. Then add the Glycerin, and gradually, while stirring, enough Water to make the solution measure *sixteen* (16) *fluidounces*. Place it for several days in a cold place, if convenient; then pour off the clear solution from any precipitate or crystals that may have formed, and keep the solution in small, completely-filled and well-corked bottles.

Solution of Hypophosphite of Iron (ferric) may also be prepared in the following manner:

Hypophosphite of Iron		1280 grains.
Citrate of Potassium		1622 "
Glycerin		2½ fluidounces.
Water	enough to make	16 "

Triturate the Hypophosphite of Iron with *six* (6) *fluidounces* of Water to a perfectly smooth mixture, then add the Citrate of Potassium and Glycerin, and apply a gentle heat, until solution has been effected. Allow the liquid to cool, and add enough Water to make *sixteen* (16) *fluidounces*. Place the solution for several days in a cold place, if convenient; then pour off the clear solution from any precipitate or crystals that may have formed, and keep the solution in small, completely-filled and well-corked bottles.

About 6 minims of this Solution represent 1 grain of Hypophosphite of Iron (ferric).

216. LIQUOR FERRI IODIDI.

Solution of Iodide of Iron.

Iron, in the form of fine, bright, and finely-cut wire . .	3 troy ounces.
Iodine	4718 grains.
Hypophosphorous Acid (N. F.)	180 minims.
Distilled Water . . . . . enough to make	16 fluidounces.

Mix the Iron with *twelve* (12) *fluidounces* of Distilled Water in a flask, add about one-half of the Iodine, and agitate continuously until the liquid becomes hot. Then moderate the reaction by placing the flask in cold water, or by allowing cold water to flow over it, meanwhile keeping up the agitation. When the reaction has moderated, add one-half of the remaining Iodine at a time, and carefully moderate the reaction each time, in the manner above directed. Finally, raise the contents of the flask to boiling and filter immediately through moistened pure filtering paper (the point of the filter being supported by a pellet of absorbent cotton) into a bottle containing the Hypophosphorous Acid. When all the liquid has passed, rinse the flask with *one-half* (½) *fluidounce* of boiling Distilled Water, and pass this through the filter. Cork the bottle and set it aside to cool. Finally, add enough Distilled Water to make the product measure *sixteen* (16) *fluidounces*.

Each fluidrachm contains about 45 grains of Iodide of Iron (ferrous).

Note.—On mixing 1 volume of this Solution of Iodide of Iron with 5 volumes of Syrup, the product will contain about 60 grains of Iodide of Iron (ferrous) in each fluidounce, and will be practically identical, measure for measure, but not weight for weight, with the officinal Syrup of Iodide of Iron.

217. LIQUOR FERRI OXYSULPHATIS.

Solution of Oxysulphate of Iron.

Sulphate of Iron	1200 grains.
Nitric Acid	1200 "
Distilled Water . . . . . enough to make	16 fluidounces.

Dissolve the Sulphate of Iron in *fifteen* (15) *fluidounces* of boiling Distilled Water, in a flask, gradually add the Nitric Acid, and continue the heat, until the escaping vapors cease to have a nitrous odor. When the reaction is completed, allow the liquid to cool and add enough Distilled Water to make *sixteen* (16) *fluidounces*.

218. LIQUOR FERRI PROTOCHLORIDI.

Solution of Protochloride of Iron.

Solution of Ferrous Chloride.

Iron, in the form of fine, bright, and finely-cut wire . .	1130 grains.
Hydrochloric Acid	10 troy ounces.
Glycerin	4 fluidounces.
Hypophosphorous Acid (N. F.)	60 minims.
Distilled Water . . . . . enough to make	16 fluidounces.

To the Iron, contained in a flask, add *six* (6) *fluidounces* of Distilled Water, and the Hydrochloric Acid, and apply a gentle heat, until effervescence ceases. Then raise the liquid to boiling, keep it at this temperature for a short time so that the Iron may be brought into solution as far as possible, filter the solution through a pellet of absorbent cotton placed in the neck of a funnel, and wash the cotton with a little Distilled Water. Evaporate the filtrate, over a boiling water-bath, until crystals begin to form, and the escaping vapors cease to redden, or only slightly affect, moistened blue litmus paper. Now add the Glycerin and the Hypophosphorous Acid, continue the heat, if necessary, until a perfect solution is obtained; then transfer the liquid to a graduated bottle, allow it to cool, and add enough Distilled Water to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents about 20 grains of Protochloride of Iron (ferrous chloride).

219. LIQUOR HYDRARGYRI ET POTASSII IODIDI.

Solution of Iodide of Mercury and Potassium.

Solution of Iodohydrargyrate of Potassium. Channing's Solution.

Red Iodide of Mercury	72 grains.
Iodide of Potassium	56 "
Distilled Water	enough to make 16 fluidounces.

Dissolve the salts in the Distilled Water.

220. LIQUOR HYPOPHOSPHITUM.

Solution of Hypophosphites.

Hypophosphite of Calcium	256 grains.
Hypophosphite of Sodium	160 "
Hypophosphite of Potassium	128 "
Citric Acid	120 "
Water	enough to make 16 fluidounces.

Dissolve the salts and the Citric Acid in Water so as to make *sixteen* (16) *fluidounces;* filter, if necessary, and pass enough Water through the filter to restore the original volume.

Each fluidrachm contains 2 grains of Hypophosphite of Calcium, 1¼ grain of Hypophosphite of Sodium, and 1 grain of Hypophosphite of Potassium.

221. LIQUOR IODI CARBOLATUS.

Carbolized Solution of Iodine.

Boulton's Solution. French Mixture.

Compound Tincture of Iodine	110 minims.
Carbolic Acid, liquefied by a gentle heat	40 "
Glycerin	2½ fluidounces.
Water	enough to make 16 "

Mix the Glycerin with the Carbolic Acid and Compound Tincture

of Iodine, add enough Water to make *sixteen* (16) *fluidounces*, and expose the mixture to sunlight until it has become colorless.

222. LIQUOR IODI CAUSTICUS.

Caustic Solution of Iodine.

Iodine Caustic. Churchill's Iodine Caustic.

Iodine	1 troy ounce.
Iodide of Potassium	2 troy ounces.
Water	4 fluidounces.

Dissolve the Iodide of Potassium and the Iodine in the Water.

223. LIQUOR MAGNESII BROMIDI.

Solution of Bromide of Magnesium.

Diluted Hydrobromic Acid (U. S. P.)	16 fluidounces.
Carbonate of Magnesium	a sufficient quantity.

Saturate the Diluted Hydrobromic Acid with a sufficient quantity (about *one* (1) *troy ounce*) of Carbonate of Magnesium. When effervescence has ceased, filter.

Each fluidrachm contains about 7 grains of Bromide of Magnesium.

224. LIQUOR MORPHINÆ CITRATIS.

Solution of Citrate of Morphine.

Morphine (alkaloid)	16 grains.
Citric Acid	12 "
Cochineal	½ grain.
Alcohol	60 minims.
Distilled Water	enough to make 1 fluidounce.

Triturate the solids with the Alcohol and *seven* (7) *fluidrachms* of Water; filter and pass enough Distilled Water through the filter to make *one* (1) *fluidounce*.

This Solution should not be kept on hand, but prepared only when required.

Each fluidrachm contains 2 grains of Morphine in the form of Citrate.

225. LIQUOR MORPHINÆ HYPODERMICUS.

Hypodermic Solution of Morphine.

Magendie's Solution of Morphine.

Sulphate of Morphine	16 grains.
Distilled Water, warm	1 fluidounce.

Dissolve the Sulphate of Morphine in the warm Distilled Water, and filter the solution through a small pellet of absorbent cotton. When the solution is cold, pass a little Distilled Water through the cotton, if necessary, to make the filtrate measure *one* (1) *fluidounce*. Keep the solution in well-stoppered vials, in a dark place.

Note.—Particular care should be taken in dispensing and labelling this solution, so that it may not be mistaken for the so-called United States Solution of Morphine (*Liquor Morphiæ Sulphatis*, U. S. P. 1870), containing only 1 grain of Sulphate of Morphine in each fluidounce, which is still used in some parts of this country.

The development of fungoid growths or micro-organisms in this and similar solutions used hypodermically may be prevented, or at least greatly retarded, by using Chloroform Water instead of plain Distilled Water as a solvent. This should, however, be done only with the knowledge, or by the direction, of the physician.

Another efficient method to preserve such solutions is, to sprinkle a little Benzoic Acid on the surface of the absorbent cotton through which the solutions are filtered. Or, about 5 grains of Boric Acid may be added to each fluidounce.

226. LIQUOR PANCREATICUS.

Pancreatic Solution.

Pancreatin (N. F.)	128 grains.
Bicarbonate of Sodium	384 "
Glycerin	4 fluidounces.
Compound Spirit of Cardamom (N. F.)	½ fluidounce.
Alcohol	½ "
Purified Talcum	120 grains.
Water	enough to make 16 fluidounces.

Triturate the Pancreatin and the Bicarbonate of Sodium gradually with *ten* (10) *fluidounces* of the Water; add the Alcohol, Compound Spirit of Cardamom and Purified Talcum; mix them thoroughly by shaking, and pour the mixture upon a wetted filter, returning the first portions of the filtrate, until it runs off clear. Wash the filter with enough Water to obtain *twelve* (12) *fluidounces* of filtrate. To this add the Glycerin.

Each fluidrachm represents 1 grain of Pancreatin (N. F.).

227. LIQUOR PEPSINI AROMATICUS.

Aromatic Solution of Pepsin.

Pepsin (N. F.)	128 grains.
Oil of Cinnamon	2 drops.
Oil of Pimenta	2 "
Oil of Cloves	4 "
Purified Talcum	120 grains.
Alcohol	½ fluidounce.
Hydrochloric Acid	75 minims.
Glycerin	4 fluidounces.
Water	enough to make 16 "

Mix the Pepsin with *eight* (8) *fluidounces* of Water and the Hydrochloric Acid, and shake the mixture frequently until the Pepsin is dissolved. Then add the Purified Talcum and the Oils, previously dissolved in the Alcohol; mix the whole thoroughly, by

agitation, and filter it through a wetted filter, returning the first portions of the liquid until it runs through clear. Pass enough Water through the filter to make the filtrate measure *twelve* (12) *fluidounces*. To this add the Glycerin.

Each fluidrachm represents 1 grain of Pepsin (*N. F.*)

228. LIQUOR PHOSPHORI.

Solution of Phosphorus.

Thompson's Solution of Phosphorus.

Phosphorus	1 grain.
Absolute Alcohol	450 minims.
Spirit of Peppermint	10 "
Glycerin	2 fluidounces.

Dissolve the Phosphorus in *four hundred* (400) *minims* of Absolute Alcohol, in a stoppered vial or test tube, by immersion in a water-bath and frequent agitation, taking care that any loss of Alcohol, by evaporation, be made up from time to time. Allow the solution to become nearly cold, and then add to it the remainder of the Absolute Alcohol and the Glycerin, previously mixed and slightly warmed. Finally add the Spirit of Peppermint. Keep the Solution in a well-stoppered bottle, in the dark.

Each fluidrachm contains about $\frac{1}{24}$ *grain of Phosphorus.*

Note.—This Solution must not be confounded with the Spiritus Phosphori (No. 344) which is not intended to be administered, as such, but is only to be used in compounding the Elixir or other preparations of phosphorus.

The Phosphorus should be perfectly translucent, cut and weighed under water, and quickly dried with filtering paper before being dropped into the alcohol.

229. LIQUOR PICIS ALKALINUS.

Alkaline Solution of Tar.

Tar	4 troy ounces.
Potassa	2 " "
Water	10 fluidounces.

Dissolve the Potassa in the Water. Shake the solution with the Tar so that the latter may be dissolved, and strain the solution through muslin.

230. LIQUOR POTASSÆ CHLORATÆ.

Solution of Chlorinated Potassa.

Liquor Potassæ Chlorinatæ. Javelle Water.

Carbonate of Potassium	58 parts.
Chlorinated Lime (U. S. P.)	80 "
Water	enough to make 1000 "

Mix the Chlorinated Lime, contained in a tared flask, with *four*

hundred (400) *parts* of Water. Dissolve the Carbonate of Potassium in *three hundred* (300) *parts* of boiling Water, and pour the hot solution into the mixture first prepared. Shake the flask well, stopper it, set it aside to cool, and then add enough Water to make the contents weigh *one thousand* (1000) *parts*. Allow the suspended matters to subside, and remove the clear solution by means of a siphon, or by straining through muslin. Keep the product in well-stoppered bottles.

Note.—The Chlorinated Lime should not contain less than 25 per cent. of available chlorine.

231. LIQUOR POTASSII ARSENIATIS ET BROMIDI.

Solution of Arseniate and Bromide of Potassium.

Liquor Arsenii Bromidi. Solution of Bromide of Arsenic. Clemens' Solution.

Arsenious Acid	73 grains.
Bicarbonate of Potassium	73 "
Bromine	117 "
Water	enough to make 16 fluidounces.

Boil the Arsenious Acid with the Bicarbonate of Potassium, and *two* (2) *fluidounces* of Water, until solution is effected. Allow this to cool, add *ten* (10) *fluidounces* of Water, then the Bromine, and afterwards enough Water to make *sixteen* (16) *fluidounces*. Let the mixture stand a few hours, agitating it occasionally, then filter.

This Solution contains an amount of Arsenic in combination, corresponding to about 1 per cent. of Arsenious Acid.

Note.—The title "Solution of Bromide of Arsenic" (*Liquor Arsenii Bromidi*) which is often applied to Clemens' Solution or similar preparations, is a misnomer, since bromide of arsenic cannot exist, as such, in presence of water, but is split up into hydrobromic and arsenious acids. The proportions of the ingredients, in the formula above given, have been adjusted, as closely as practicable, so as to yield definite compounds, viz.: arseniate and bromide of potassium.

In order to prevent injury to the balances by weighing a definite amount of Bromine, the plan suggested in the Note to No. 208 may be applied to this preparation, viz.: to prepare such a quantity of the latter at one time, as will be commensurate to the actual contents of an original vial of Bromine.

232. LIQUOR SACCHARINI.

Solution of Saccharin.

Saccharin	512 grains.
Bicarbonate of Sodium	240 "
Alcohol	4 fluidounces.
Water	enough to make 16 "

Dissolve the Saccharin and the Bicarbonate of Sodium in *ten* (10) *fluidounces* of Water, filter the solution, add the Alcohol to the fil-

trate, and pass enough Water through the filter to make *sixteen* (16) *fluidounces.*

Each fluidrachm represents 4 grains of Saccharin.

Note.—The Saccharin directed in the above formula is, properly speaking, "anhydro-ortho-sulphamine-benzoic acid," an artificially prepared member of the so-called aromatic series of organic chemicals. It is a body having feebly acid properties, soluble in about 333 parts of water and in 33 parts of alcohol at 15° C. (59° F.). When neutralized by an alkali, it is quite soluble in water.

The Solution of Saccharin is intended to be used for sweetening liquids or solids, when the use of sugar is objectionable, or when a sweet taste is to be imparted to a liquid without increasing its density.

233. LIQUOR SERIPARUS.

Liquid Rennet.

Calves' Rennet, fresh	2 troy ounces.
Chloride of Sodium	360 grains.
Alcohol	4 fluidounces.
Water	16 "

Dissolve the Chloride of Sodium in the Water, add the Alcohol, and macerate in this mixture the Rennet (or the washed mucous membrane of the fresh stomach of a suckling calf), during three days, under frequent agitation. Then filter.

Note.—If this liquid is to be used merely for curdling the milk, without separating the whey as a distinct layer, it should be added to the milk, previously warmed to a temperature of about 35° C. (95° F.), and the mixture should then be set aside undisturbed, until it coagulates. If the whey is to be separated, the Liquid Rennet should be added to the milk while cold, and the mixture heated to about 35° C. (95° F.), but not exceeding 40° C. (104° F.). One part of the liquid should coagulate between 200 and 300 parts of cows' milk.

234. LIQUOR SODII ARSENIATIS, PEARSON.

Pearson's Solution of Arseniate of Sodium.

Arseniate of Sodium, in perfect crystals	1 part.
Distilled Water	enough to make 600 parts.

Dissolve the Arseniate of Sodium in enough Distilled Water to make *six hundred* (600) *parts*, and filter, if necessary.

Pearson's Solution of Arseniate of Sodium may also be prepared as follows:

Solution of Arseniate of Sodium (U. S. P. 1880)	1 part.
Distilled Water	enough to make 10 parts.

Mix the Solution of Arseniate of Sodium with enough Distilled Water to make *ten* (10) *parts*, and filter, if necessary.

This Solution contains about $\frac{1}{10}$ per cent. of anhydrous Arseniate of Sodium.

Note.—This preparation should not be confounded with the *Liquor Sodii*

Arseniatis of U. S. P., which is ten times stronger, than the above preparation. Pearson's Solution is officinal in the French Pharm., under the title *Soluté d'Arseniate de Soude*, (or *Solution Arsenicale de Pearson*). It is recommended that Pearson's Solution be dispensed only when expressly designated as "Pearson's."

235. LIQUOR SODII BORATIS COMPOSITUS.

Compound Solution of Borate of Sodium.

Dobell's Solution.

Borate of Sodium	120 grains.
Bicarbonate of Sodium	120 "
Carbolic Acid, crystallized	24 "
Glycerin	½ fluidounce.
Water, enough to make	16 fluidounces.

Dissolve the Salts in about *eight* (8) *fluidounces* of Water, then add the Glycerin, and the Carbolic Acid previously liquefied by warming, and lastly, enough Water to make *sixteen* (16) *fluidounces*.

236. LIQUOR SODII CARBOLATIS.

Solution of Carbolate of Sodium.

Phénol Sodique.

Carbolic Acid, crystallized	30 parts.
Soda	2 "
Water	28 "

Dissolve the Soda in the Water, add the Carbolic Acid, and warm gently, until it is dissolved.

This preparation should be made freshly, when wanted for use.

Note.—The formula is based upon that of the Germ. Pharm., (I., 1872).

237. LIQUOR SODII CITRATIS.

Solution of Citrate of Sodium.

Mistura Sodii Citratis. Saturatio. Potio Riveri (Germ. Pharm.).

Citric Acid	150 grains.
Bicarbonate of Sodium	190 "
Water	16 fluidounces.

Dissolve the Citric Acid in the Water contained in a bottle, add the Bicarbonate of Sodium, dissolve it by agitation, and immediately stopper the bottle securely.

This preparation should be freshly prepared when wanted for use.

Note.—The German Pharm. directs that, when "Saturatio" is prescribed, without any specification of the ingredients or strength, *Potio Riveri*, represented here by *Liquor Sodii Citratis*, be dispensed.

238. LIQUOR SODII CITRO-TARTRATIS.

Solution of Citro-Tartrate of Sodium.

Bicarbonate of Sodium	390 grains.
Tartaric Acid	360 "
Citric Acid	30 "
Syrup	1½ fluidounces.
Water	10½ "

Dissolve *three hundred and sixty* (360) *grains* of the Bicarbonate of Sodium in the Water and add the Tartaric Acid. When this is dissolved, filter the solution, add the Syrup to the filtrate, then the remainder of the Bicarbonate of Sodium, and lastly, the Citric Acid, in crystals. Close the bottle at once with a stopper which should be securely tied.

239. LIQUOR SODII OLEATIS.

Solution of Oleate of Sodium.

White Castile Soap, dry and powdered	16 troy ounces.
Water	enough to make 16 pints.

Mix the Castile Soap with *four* (4) *pints* of Water so as to produce a uniform and gelatinous mixture. Then add *ten* (10) *pints* more of Water, apply heat until the Soap is dissolved, allow the liquid to cool and add enough Water to make it measure *sixteen* (16) *pints*.

Note.—This preparation is intended to be used in the preparation of Oleates.

240. LIQUOR STRYCHNINÆ ACETATIS.

Solution of Acetate of Strychnine.

Hall's Solution of Strychnine.

Acetate of Strychnine	16 grains.
Diluted Acetic Acid	½ fluidounce.
Alcohol	4 fluidounces.
Compound Tincture of Cardamom	60 minims.
Water	enough to make 16 fluidounces.

Dissolve the Acetate of Strychnine in about *eight* (8) *fluidounces* of Water mixed with the Diluted Acetic Acid, then add the Alcohol, Compound Tincture of Cardamom, and lastly, enough Water to make *sixteen* (16) *fluidounces*. Allow the mixture to stand a few days, if convenient, and filter.

Each fluidrachm contains ⅛ grain of Acetate of Strychnine.

Note.—The Brit. Pharm. directs a *Liquor Strychninæ Hydrochloratis* (with synonym: *Liquor Strychniæ*) which is much stronger, and should not be confounded with the above preparation. It should never be dispensed, unless expressly designated. It may be prepared by dissolving 1 grain of crystallized Strychnine (alkaloid) in 80 minims of Water with the aid of 2 drops of Diluted Hydrochloric Acid, and then adding 20 minims of Alcohol. The product contains ½ grain of Strychnine in each fluidrachm.

241. LIQUOR ZINCI ET FERRI COMPOSITUS.

Compound Solution of Zinc and Iron.

Deodorant Solution.

Sulphate of Zinc	16 troy ounces.
Sulphate of Iron	16 " "
Naphthol	20 grains.
Oil of Thyme	60 minims.
Hypophosphorous Acid	120 "
Water	enough to make 5 pints.

Dissolve the Sulphate of Zinc and Sulphate of Iron in *five* (5) *pints* of boiling Water, add the Naphthol, and Oil of Thyme, and shake the mixture occasionally, in a stoppered bottle, until it is cold. Then add the Hypophosphorous Acid, filter the liquid through a wetted filter, and lastly, pass enough Water through the latter to make *five* (5) *pints*.

Note.—This solution is used as a simple deodorant and antiseptic for common domestic use, when it is unnecessary or impracticable to employ more powerful agents.

When a deodorant solution is required for purposes where *iron* is objectionable, as for instance, when woven fabrics are to be steeped in it, the following preparation may be employed:

2. Liquor Zinci et Aluminii Compositus.

Sulphate of Zinc	16 troy ounces.
Sulphate of Aluminium	16 " "
Naphthol	20 grains.
Oil of Thyme	60 minims.
Water	enough to make 5 pints.

Dissolve the Sulphate of Zinc and the Sulphate of Aluminium in *five* (5) *pints* of Water, by the aid of heat, add the Naphthol and Oil of Thyme, and shake the mixture occasionally, in a stoppered bottle, until it cools. Set it aside for a few days, if convenient, and then pass it through a wetted filter, following it with enough Water to make *five* (5) *pints*.

The commercial Sulphate of Aluminium (*not* Alum) may be used for this preparation. This generally contains a trace of iron, but by allowing the liquid to stand, this will be gradually precipitated.

242. LIQUOR ZINCIBERIS.

Solution of Ginger.

Soluble Essence of Ginger.

Fluid Extract of Ginger	4 fluidounces.
Pumice, in moderately fine powder	1 troy ounce.
Water	enough to make 12 fluidounces.

Pour the Fluid Extract of Ginger into a bottle, add to it the Pumice, and shake the mixture thoroughly and repeatedly in the course of several hours. Then add the Water in portions of about *two* (2) *fluidounces*, shaking well and frequently after each addition.

When all is added, repeat the agitation occasionally during twenty-four hours, then filter, returning the first portions of the filtrate until it runs through clear, and, if necessary, pass enough Water through the filter to make *twelve* (12) *fluidounces*.

243. LOTIO ADSTRINGENS.

Astringent Lotion.

Warren's Styptic.

Sulphuric Acid	5	fluidrachms.
Oil of Turpentine	4	"
Alcohol	4	"

To the Sulphuric Acid, contained in a wedgewood mortar, slowly add the Oil of Turpentine, in small portions at a time, constantly stirring. Allow the mixture to cool, then add the Alcohol cautiously, in the same manner, and continue stirring until no more fumes arise. When the liquid is cold, pour it into a glass-stoppered bottle.

Note.—In preparing this mixture, caution should be used, so that the temperature may not rise too high. Particular care is to be observed, if a larger quantity of this mixture is to be prepared. In this case it is preferable to prepare it in several portions.

244. LOTIO FLAVA.

Yellow Lotion.

Yellow Wash. Aqua Phagedænica Flava (Germ. Pharm.).

Corrosive Chloride of Mercury	24 grains.
Water	a sufficient quantity.
Solution of Lime	enough to make 16 fluidounces.

Dissolve the Corrosive Chloride of Mercury in *one-half* (½) *fluidounce* of boiling Water, and add the solution to a sufficient quantity of Solution of Lime, to make *sixteen* (16) *fluidounces*.

This mixture should be well agitated whenever any of it is to be dispensed.

245. LOTIO NIGRA.

Black Lotion.

Black Wash. Aqua Phagedænica Nigra (Germ. Pharm.).

Mild Chloride of Mercury	64 grains.
Water	a sufficient quantity.
Solution of Lime	enough to make 16 fluidounces.

Triturate the Mild Chloride of Mercury with *one-half* (½) *fluidounce* of Water, and gradually add a sufficient quantity of Solution of Lime, to make *sixteen* (16) *fluidounces*.

This mixture should be well agitated, whenever any of it is to be dispensed.

246. LOTIO PLUMBI ET OPII.

Lotion of Lead and Opium.

Lead and Opium Wash.

Acetate of Lead	120 grains.
Tincture of Opium	½ fluidounce.
Water	enough to make 16 fluidounces.

Dissolve the Acetate of Lead in about *ten* (10) *fluidounces* of Water, add the Tincture of Opium, and enough Water to make *sixteen* (16) *fluidounces*.

This mixture should be well agitated, whenever any of it is to be dispensed.

247. MISTURA ACACIÆ.

Mixture of Acacia.

Mixtura Gummosa (Germ. Pharm. I.).

Acacia, in fine powder	1 troy ounce.
Sugar	1 " "
Water	12 fluidounces.

Dissolve the Acacia and Sugar in the Water.

This preparation should be freshly made, when wanted for use.

248. MISTURA ADSTRINGENS ET ESCHAROTICA.

Astringent and Escharotic Mixture.

Villate's Solution.

Solution of Subacetate of Lead	1½ fluidounces.
Sulphate of Copper	1 troy ounce.
Sulphate of Zinc	1 " "
Diluted Acetic Acid (U. S. P.)	13 fluidounces.

Dissolve the Sulphate of Copper and Sulphate of Zinc in the Diluted Acetic Acid, add the Solution of Subacetate of Lead, and agitate thoroughly. Set the mixture aside, so that the precipitate may subside. Then decant, or siphon off, the clear liquid and preserve it for use.

Note.—In attempting to pass the liquid through a filter, it will usually be found that the finely divided precipitate of sulphate of lead will partially pass along with it. This may be prevented (in this and many similar cases) by adding to the mixture a small quantity of starch, thoroughly incorporating this by agitation, and pouring the mixture on the previously wetted filter. The first portions of the filtrate are poured back until it runs through clear.

249. MISTURA AMMONII CHLORIDI.

Mixture of Chloride of Ammonium.

Mistura (or *Mixtura*) *Solvens Simplex.*

Chloride of Ammonium	180 grains.
Purified Extract of Glycyrrhiza	180 "
Water	enough to make 16 fluidounces.

Dissolve the solids in a sufficient quantity of Water, to make *sixteen* (16) *fluidounces.*

Note.—Sometimes, a *Mistura* (or *Mixtura*) *Solvens Stibiata* is prescribed. This may be prepared by dissolving 2 grains of Tartrate of Antimony and Potassium in each pint of *Mistura Ammonii Chloridi.*

250. MISTURA CAMPHORÆ ACIDA.

Acid Camphor Mixture.

Mistura Antidysenterica. Hope's Mixture.

Nitric Acid	120 minims.
Tincture of Opium	80 "
Camphor Water	enough to make 16 fluidounces.

Mix the Nitric Acid with about *eight* (8) *fluidounces* of Camphor Water, add the Tincture of Opium, and lastly, enough Camphor Water, to make *sixteen* (16) *fluidounces.*

251. MISTURA CAMPHORÆ AROMATICA.

Aromatic Camphor Mixture.

Parrish's Camphor Mixture.

Compound Tincture of Lavender	4 fluidounces.
Sugar	½ troy ounce.
Camphor Water	enough to make 16 fluidounces.

Mix the Compound Tincture of Lavender with about *eight* (8) *fluidounces* of Camphor Water, dissolve the Sugar in the mixture, and add enough Water to make *sixteen* (16) *fluidounces.*

252. MISTURA CARMINATIVA.

Carminative Mixture.

Dalby's Carminative.

Carbonate of Magnesium	1 troy ounce.
Carbonate of Potassium	20 grains.
Tincture of Opium	180 minims.
Oil of Caraway	4 drops.
Oil of Fennel	4 "
Oil of Peppermint	4 "
Syrup	2½ fluidounces.
Water	enough to make 16 fluidounces.

Triturate the Oils with about *sixty* (60) *grains* of Carbonate of Magnesium, and *twelve* (12) *fluidounces* of Water, gradually added

Then add the remainder of the Carbonate of Magnesium and the other ingredients, and lastly, add enough Water to make *sixteen* (16) *fluidounces*.

This preparation should be freshly made, when wanted for use.

Each fluidounce represents about 1 grain of Opium.

253. MISTURA CHLORAL ET POTASSII BROMIDI COMPOSITA.

Compound Mixture of Chloral and Bromide of Potassium.

Chloral	4 troy ounces.
Bromide of Potassium	4 " "
Extract of Indian Cannabis	16 grains.
Extract of Hyoscyamus	16 "
Alcohol	1 fluidounce.
Tincture of Quillaja (N. F.)	1 "
Water	enough to make 16 fluidounces.

Dissolve the Chloral and Bromide of Potassium in *twelve* (12) *fluidounces* of Water, dissolve in this solution the Extract of Hyoscyamus, and add the Tincture of Quillaja. Then dissolve the Extract of Indian Cannabis in the Alcohol, and add this solution gradually, and under shaking, to that first prepared. Finally, add enough Water to make *sixteen* (16) *fluidounces*.

This preparation should be shaken whenever any of it is to be dispensed.

Each fluidrachm contains 15 grains, each, of Chloral, and of Bromide of Potassium, and 1/8 grain, each, of Extract of Indian Cannabis and of Extract of Hyoscyamus.

Note.—The resinous Extract of Indian Cannabis is merely held in suspension by means of the Tincture of Quillaja, as it is practically insoluble in the liquid. If the mixture is filtered, the resin will remain on the filter.

254. MISTURA CHLOROFORMI ET OPII.

Mixture of Chloroform and Opium.

Chloroform Anodyne.

Purified Chloroform	2 fluidounces.
Oil of Peppermint	16 minims.
Tincture of Indian Cannabis	2 fluidounces.
Tincture of Quillaja (N. F.)	2 "
Fluid Extract of Belladonna	128 minims.
Deodorized Tincture of Opium	2½ fluidounces.
Tincture of Capsicum	1 fluidounce.
Purified Extract of Glycyrrhiza	240 grains.
Water	½ fluidounce.
Syrup	enough to make 16 fluidounces.

Triturate the Purified Extract of Glycyrrhiza with the Water and *one* (1) *fluidounce* of the Syrup until it is dissolved. Mix the Fluid

Extract of Belladonna, Deodorized Tincture of Opium and Tincture of Capsicum, and add them to the solution first prepared. Then mix the Chloroform, Oil of Peppermint, Tincture of Indian Cannabis and Tincture of Quillaja, and add them to the mixture. Finally add enough Syrup to make *sixteen* (16) *fluidounces* and mix the whole thoroughly together.

This mixture should be shaken, whenever any of it is to be dispensed.

Each fluidrachm represents 7½ minims of Chloroform, 7½ minims of Tincture of Indian Cannabis, 3¾ minims of Tincture of Capsicum, 1 minim of Fluid Extract of Belladonna, and about 1 grain of Opium.

Note.—This preparation is intended to fulfil the same purposes as the *Tinctura Chloroformi et Morphinæ* of the British Pharm., though the composition of the latter differs materially from that of the mixture above given.

255. MISTURA CONTRA DIARRHOEAM.

Diarrhœa Mixture.

Cholera Mixture.

1. Tincture of Opium,
Tincture of Capsicum,
Tincture of Rhubarb,
Spirit of Camphor,
Spirit of Peppermint, each . . . . . equal volumes.

Mix them, and filter.

Note.—The formula above given, which appears to be that in most general use, is also known under the name of "Sun Mixture."

Of other similar preparations, in more or less general use, the following may be mentioned here:

2. *Loomis' Diarrhœa Mixture.*

Tincture of Opium	½	fluidounce.
Tincture of Rhubarb	½	"
Compound Tincture of Catechu (U. S. P.)	1	"
Oil of Sassafras	20	minims.
Compound Tincture of Lavender . enough to make	4	fluidounces.

3. *Squibb's Diarrhœa Mixture.*

Tincture of Opium	1	fluidounce.
Tincture of Capsicum	1	"
Spirit of Camphor	1	"
Purified Chloroform	180	minims.
Alcohol . . . enough to make	5	fluidounces.

4. *Thielemann's Diarrhœa Mixture.*

Wine of Opium	1	fluidounce.
Tincture of Valerian	1½	fluidounces.
Ether	½	fluidounce.
Oil of Peppermint	60	minims.
Fluid Extract of Ipecac	15	"
Alcohol . . . enough to make	4	fluidounces.

This preparation is practically identical with the *Mixtura Thielemanni* of the Swedish Pharm.

5. Velpeau's Diarrhœa Mixture.

Tincture of Opium,
Compound Tincture of Catechu, (U. S. P.)
Spirit of Camphor, each . . . . . equal volumes.

256. MISTURA COPAIBÆ COMPOSITA.

Compound Copaiba Mixture.

1. Lafayette Mixture.

Copaiba	2	fluidounces.
Spirit of Nitrous Ether	2	"
Compound Tincture of Lavender	2	"
Solution of Potassa	½	fluidounce.
Syrup	5	fluidounces.
Mucilage of Dextrin (N. F.) . . . . enough to make	16	"

Mix the Copaiba with the Solution of Potassa and the Spirit of Nitrous Ether. Then add the Compound Tincture of Lavender, and lastly, the Syrup and Mucilage of Dextrin. Mix the whole thoroughly by shaking.

This mixture should be well agitated, whenever any of it is to be dispensed.

Each fluidrachm contains 7½ minims of Copaiba.

Note.—The above mixture has usually been prepared with Mucilage of Acacia; but if Mucilage of Dextrin (N. F.) be used, it will keep for a longer time without separating.

A mixture of somewhat similar composition, in considerable use in some parts of the country, is the following:

2. Chapman's Mixture.

Copaiba	4	fluidounces.
Spirit of Nitrous Ether	4	"
Compound Tincture of Lavender	½	fluidounce.
Tincture of Opium	½	"
Mucilage of Acacia	1½	fluidounces.
Water . . . . enough to make	16	"

257. MISTURA EXPECTORANS, STOKES.

Stokes' Expectorant Mixture.

Stokes' Expectorant.

Carbonate of Ammonium	128	grains.
Fluid Extract of Senega	½	fluidounce.
Fluid Extract of Squill	½	"
Camphorated Tincture of Opium	3	fluidounces.
Water	1½	"
Syrup of Tolu . . . . enough to make	16	"

Dissolve the Carbonate of Ammonium in the Water, add the

Fluid Extracts and Tincture, and lastly, enough Syrup of Tolu to make *sixteen* (16) *fluidounces*.

258. MISTURA GUAIACI.

Mixture of Guaiac.

Resin of Guaiac	190 grains.
Sugar	190 "
Acacia, in fine powder	100 "
Cinnamon Water	16 fluidounces.

Triturate the Resin of Guaiac with the Sugar and Acacia, then gradually add the Cinnamon Water, and mix thoroughly.

This mixture should be well agitated, whenever any of it is to be dispensed.

Note.—This preparation is practically identical with the *Mistura Guaiaci* of the Brit. Pharm.

259. MISTURA OLEO-BALSAMICA.

Oleo-balsamic Mixture.

Mixtura Oleoso-balsamica (Germ. Pharm.). *Balsamum Vitæ Hoffmanni.*

Oil of Lavender	30 minims.
Oil of Thyme	30 "
Oil of Lemon	30 "
Oil of Mace	30 "
Oil of Orange Flowers	30 "
Oil of Cloves	25 "
Oil of Cinnamon	25 "
Balsam of Peru	80 "
Alcohol	enough to make 16 fluidounces.

Dissolve the Oils and the Balsam of Peru in the Alcohol, let the solution stand a few days, and then filter.

260. MISTURA OLEI PICIS.

Mixture of Oil of Tar.

Mistura Picis Liquidæ. Tar Mixture.

Purified Extract of Glycyrrhiza	1 troy ounce.
Oil of Tar	½ fluidounce.
Sugar	4 troy ounces.
Chloroform	75 minims.
Oil of Peppermint	20 "
Alcohol	2½ fluidounces.
Water	enough to make 16 fluidounces.

Add the Purified Extract of Glycyrrhiza and the Sugar to *ten* (10) *fluidounces* of Water, contained in a covered vessel, and heat the mixture to boiling until the Extract and Sugar are dissolved. Then add the Oil of Tar, cover the vessel, and allow the contents to

cool, stirring occasionally. Next add the Chloroform and Oil of Peppermint previously dissolved in the Alcohol, and lastly, enough Water to make *sixteen* (16) *fluidounces*.

This mixture should be well agitated, whenever any of it is to be dispensed.

261. MISTURA RHEI COMPOSITA.

Compound Mixture of Rhubarb.

Squibb's Rhubarb Mixture.

Fluid Extract of Rhubarb	86 minims.
Fluid Extract of Ipecac	16 "
Bicarbonate of Sodium	172 grains.
Glycerin	4 fluidounces.
Peppermint Water	enough to make 16 "

Dissolve the Bicarbonate of Sodium in about *eight* (8) *fluidounces* of Peppermint Water, then add the Fluid Extracts and Glycerin, and lastly, enough Peppermint Water to make *sixteen* (16) *fluidounces*.

262. MISTURA SASSAFRAS ET OPII.

Mixture of Sassafras and Opium.

Mistura Opii Alkalina. Godfrey's Cordial.

Oil of Sassafras	6 minims.
Tincture of Opium	256 "
Alcohol	360 "
Carbonate of Potassium	60 grains.
Molasses	5 fluidounces.
Water	enough to make 16 "

Mix the Tincture of Opium with the Alcohol in which the Oil of Sassafras had previously been dissolved. Dissolve the Carbonate of Potassium in about *eight* (8) *fluidounces* of Water, mix this with the Molasses, then add the mixture first prepared, and lastly, enough Water to make *sixteen* (16) *fluidounces*. Allow the mixture to become clear by standing, then pour off the liquid portion and preserve it for use.

Each fluidrachm contains 2 minims of Tincture of Opium, corresponding to about $\frac{1}{8}$ grain of Opium.

263. MISTURA SODÆ ET MENTHÆ.

Mixture of Soda and Spearmint.

Soda Mint.

Bicarbonate of Sodium	320 grains.
Aromatic Spirit of Ammonia	60 minims.
Spearmint Water	enough to make 16 fluidounces.

Dissolve the Bicarbonate of Sodium in about *twelve* (12) *fluid-*

ounces of Spearmint Water, add the Aromatic Spirit of Ammonia, and enough Spearmint Water to make *sixteen* (16) *fluidounces*. Filter, if necessary.

264. MISTURA SPLENETICA.

Splenetic Mixture.

Spleen Mixture. Gadberry's Mixture.

Sulphate of Iron	100 grains.
Sulphate of Quinine	100 "
Nitric Acid	100 minims.
Nitrate of Potassium	300 grains.
Water	enough to make 16 fluidounces.

Triturate the Sulphate of Iron, reduced to powder, with the Nitric Acid previously mixed with an equal volume of Water. When effervescence has ceased, warm the mixture gently, until it no longer evolves visible vapors of a yellowish tint. Then add to it the Sulphate of Quinine, the Nitrate of Potassium, and lastly, enough Water to make *sixteen* (16) *fluidounces*. When solution has been effected, filter.

265. MISTURA SULPHURICA ACIDA.

Sulphuric Acid Mixture.

Mixtura Sulphurica Acida (Germ. Pharm.). *Haller's Acid Elixir.*

Sulphuric Acid	1 part.
Alcohol	enough to make 4 parts.

Add the Acid very gradually to *three* (3) *parts* of Alcohol, contained in a flask, agitating after each addition, and taking care, that the temperature of the mixture be not allowed to rise above 50° C. (122° F.) When the mixture is cold, add enough Alcohol, if necessary, to make *four* (4) *parts*.

Note.—The same product may be obtained, approximately, by carefully and slowly adding 1 volume of Sulphuric Acid to 7 volumes of Alcohol, and this method may be used when small quantities are required for immediate use in a prescription.

266. MUCILAGO CHONDRI.

Mucilage of Irish Moss.

Irish Moss	360 grains.
Water	enough to make 30 fluidounces.

Wash the Irish Moss with cold Water, then place it in a suitable vessel, add *thirty* (30) *fluidounces* of Water, and heat it, on a boiling water-bath, for fifteen minutes, frequently stirring. Then strain it through muslin, and pass enough Water through the strainer to make the liquid, when cold, measure *thirty* (30) *fluidounces*.

Mucilage of Irish Moss may also be prepared in the following manner:

Irish Moss Gelatin	240 grains.
Water	enough to make 30 fluidounces.

Heat the Irish Moss Gelatin with *thirty* (30) *fluidounces* of Water, at a boiling temperature, until it is completely dissolved. Then allow the solution to cool, and add enough Water, if necessary, to make up the volume to *thirty* (30) *fluidounces*.

Note.—Mucilage of Irish Moss, thus prepared, is well adapted for the preparation of emulsions of fixed oils. If it is, however, required for admixture with *clear* liquids, it should be diluted, when freshly made, and while still hot, with about 3 volumes of boiling water, filtered, and the filtrate evaporated to the volume corresponding to the proportions above given. The filtration may be greatly facilitated by filling the filter loosely with absorbent cotton, and pouring the liquid upon the latter.

Mucilage of Irish Moss may be preserved for some time by transferring it, while hot, into bottles, which should be filled to the neck, then pouring a layer of Olive Oil on top, securely stoppering the bottles, and keeping them, in an upright position, in a cool place. When the Mucilage is wanted for use, the layer of oil may be removed by means of absorbent cotton.

267. MUCILAGO DEXTRINI.

Mucilage of Dextrin.

Dextrin	1 part.
Water	enough to make 3 parts.

Mix them in a tared vessel, and heat the mixture, under constant stirring, to near boiling, until the Dextrin is dissolved and a limpid liquid results. Then restore any loss of water by evaporation, strain the liquid through muslin, and allow it to cool short of gelatinizing, when it will be ready for immediate use.

Note.—If the Mucilage is not at once to be used for preparing emulsions or other mixtures, transfer it, while hot, to bottles, which should be filled to the neck. Then pour into each bottle a sufficient quantity of Olive Oil to form a protecting layer, and when the mucilage has gelatinized, securely cork the bottles, and keep them in a cool place, in an upright position.

When gelatinized Mucilage of Dextrin is to be used for the preparation of emulsions or for other mixtures, pour off the protecting layer of oil from the surface, remove the remainder of the oil by a pellet of absorbent cotton, and warm the bottle gently, until the Mucilage is liquefied. Then allow it to cool short of gelatinizing.

The kind of Dextrin suitable for this preparation is the commercial, *white* variety, provided it still contains some unaltered or only partially altered starch, and forms a jelly on cooling, when made into a mucilage after the formula above given. The yellow variety, which is completely soluble in about 2 parts of cold water, will not answer the purpose.

268. MUCILAGO SALEP.

Mucilage of Salep.

Salep, in fine powder	70 grains.
Cold Water	1½ fluidounces.
Boiling Water	14½ "

Place the powdered Salep into a flask containing the Cold Water, and shake until the powder is divided. Then add the Boiling Water, and shake the mixture continuously until it has cooled to 25° C. (77° F.), or below this temperature. The cooling may be hastened by frequent and brief immersion of the flask in cold water.

Mucilage of Salep should be freshly made, when wanted for use.

Note.—If Sugar or Syrup is prescribed in the same mixture with Mucilage of Salep, it is preferable to triturate the required quantity of powdered Salep with either of the former, as the case may be, and then to add rapidly the proportionate amount of Boiling Water.

269. OLEA INFUSA.

Infused Oils.

The Dry Herb, in moderately coarse (No. 40) powder	100 parts.
Alcohol	75 "
Water of Ammonia	2 "
Lard Oil	250 "
Cotton Seed Oil	250 "

Moisten the powdered Herb with a sufficient quantity of the Alcohol and Water of Ammonia previously mixed, then pack it tightly into a stone or enamelled iron-vessel of suitable capacity, pour on the remainder of the ammoniated Alcohol, cover it well, and allow the mixture to macerate for twenty-four hours. Then add *sixty* (60) *parts* of the mixed Oils, digest, under frequent agitation, during twelve hours, at a temperature between 50° and 60° C. (122° to 140° F.), transfer the mixture to a strainer, and express strongly. To the residue, returned to the vessel, add the remainder of the Oils, digest and express in the same manner, and unite the expressed portions.

Note.—This process is a modification of that prescribed by the *Germ. Pharm.* The alcohol and free ammonia are dissipated during the digestion. Infused Oils are usually prepared only from so-called narcotic plants, but it is known that only a portion of their active constituents is taken up by the oil. The above process is to be used for the preparation of *Oleum Hyoscyami* of the Germ. Pharm., and similar infused oils.

270. OLEATUM ACONITINÆ.

Oleate of Aconitine.

Aconitine, alkaloid	2 parts.
Oleic Acid	98 "

Triturate the Aconitine with a small portion of the Oleic Acid in

a mortar, then incorporate the remainder of the Oleic Acid, and stir the mixture frequently until the alkaloid is dissolved.

Note.—The market affords a variety of Aconitines made by different processes, by different manufacturers, and of greatly different potency. Only the pure crystallized or crystallizable alkaloid, prepared by Duquesnel's method, or at least one equal to it in strength, should be used for this preparation.

271. OLEATUM PLUMBI.

Oleate of Lead.

Acetate of Lead	3 troy ounces.
Solution of Oleate of Sodium (N. F.)	5 pints.
Acetic Acid,	
Water	each, a sufficient quantity.

Dissolve the Acetate of Lead in *ten* (10) *pints* of Water. Should the solution be turbid or opalescent, add to it Acetic Acid, in drops, until it has become clear. Then filter it, if necessary, through a pellet of absorbent cotton placed in the neck of a funnel, and mix it slowly, and under constant stirring, with the Solution of Oleate of Sodium. Heat the mixture to boiling, transfer it to a strainer, and when the liquid has drained off, wash the residue with *ten* (10) *pints* of boiling Water. Lastly, take the mass from the strainer, remove any occluded Water by pressure, and transfer it, while warm and soft, to suitable vessels.

The product contains an amount of Lead corresponding to about 28 per cent. of Oxide of Lead.

Note.—The theoretical yield of Oleate of Lead obtainable from 3 troy ounces of acetate of lead is 2839 grains; in practice, about 5 troy ounces will be obtained. Oleate of Lead prepared by the above process is of about the consistence of lead-plaster, and may be converted into an ointment by mixing with it such a proportion of oleic acid as may be required.

272. OLEATUM QUININÆ.

Oleate of Quinine.

Quinine (U. S. P., 1880), dried at 100° C. (212° F.) until it ceases to lose weight	25 parts.
Oleic Acid	75 "

Triturate the Quinine with the Oleic Acid, gradually added, then apply a gentle heat, and stir frequently, until the Quinine is dissolved.

The product contains 25 per cent. of dry Quinine.

Note.—When the officinal Quinine ($C_{20}H_{24}N_2O_2.3H_2O$) is not available, the quantity corresponding to 25 parts of dry Quinine may be prepared as follows: Take 34 parts of officinal Sulphate of Quinine, dissolve it in 200 parts of Water with the aid of a sufficient quantity of Diluted Sulphuric Acid, then precipitate the Quinine by means of Water of Ammonia, added, under constant stirring,

until it is in slight excess. Transfer the magma to a close muslin strainer, previously wetted, allow the liquid to drain off, and wash the precipitate with ice-cold Water, until the washings are practically tasteless, but using not more than about 200 parts of Water. Lastly, dry the precipitate.

The theoretical quantity of dry quinine obtainable from 34 parts of the sulphate is 25.27 parts. In practice, approximately 25 parts will be obtained.

273. OLEATUM ZINCI.

Oleate of Zinc.

Acetate of Zinc, crystallized	3 troy ounces.
Solution of Oleate of Sodium (N. F.)	8 pints.
Water	a sufficient quantity.

Dissolve the Acetate of Zinc in *sixteen* (16) *pints* of cold Water, filter the solution, if necessary, through a pellet of absorbent cotton placed in the neck of a funnel, and then mix it slowly and under constant stirring, with the Solution of Oleate of Sodium. Transfer the mixture to a wetted muslin strainer, and when the liquid has drained off, wash the precipitate with Water, until the washings are practically tasteless. Lastly, dry the precipitate, spread on paper, by exposure to dust-free air, without heat.

The product contains an amount of Zinc corresponding to about 13 per cent. of Oxide of Zinc.

Note.—The theoretical yield of Oleate of Zinc obtainable from 3 troy ounces of acetate of zinc is 3600 grains; in practice, about 7 troy ounces will be obtained. Oleate of Zinc, prepared by the above process, is in the form of a soft, white powder, and may be converted into a plaster or ointment by mixing it with such a proportion of oleic acid as may be required.

274. OLEOSACCHARA.

Oil-Sugars.

Elæosacchara (Germ. Pharm.).

Any Volatile Oil	1 drop.
Sugar	30 grains.

Triturate the Sugar with the Volatile Oil to a fine powder.

This preparation should be freshly made, when wanted for use.

Note.—When *Elæosaccharum Anisi, E. Fœniculi, E. Menthæ Piperitæ*, etc., etc., are prescribed, these are to be prepared from the corresponding essential oils, according to the above formula.

275. OLEUM CARBOLATUM.

Carbolized Oil.

Carbolic Acid	5 parts.
Cotton Seed Oil	95 "

Melt the Carbolic Acid with a gentle heat, and mix it with the Cotton Seed Oil.

276. OLEUM HYOSCYAMI COMPOSITUM.

Compound Oil of Hyoscyamus.

Balsamum Tranquillans.

Oil of Absinth	3 drops.
Oil of Lavender	3 "
Oil of Rosemary	3 "
Oil of Sage	3 "
Oil of Thyme	3 "
Infused Oil of Hyoscyamus	5 fluidounces.

Mix them.

Note.—Oil of Absinth is the volatile oil of *Artemisia Absinthium* Linné. (Wormwood), and Oil of Sage is the volatile oil of *Salvia officinalis* Linné. Infused Oil of Hyoscyamus is the *Oleum Hyoscyami* of the Germ. Pharm.; see under No. 269. The *Baume Tranquille* (*Balsamum tranquillans*) of the Codex is a more complex preparation, not identical with the above, but possessing about the same properties.

277. OXYMEL SCILLÆ.

Oxymel of Squill.

Vinegar of Squill	5 parts.
Honey	10 "

Mix them in a tared porcelain capsule or enamelled iron vessel, and apply the heat of a water-bath until the mixture has been reduced to the weight of *ten* (10) *parts*. Then strain, allow it to cool, and transfer it to bottles, which should be well corked.

278. PANCREATINUM.

Pancreatin.

Pancreas of the Hog, fresh,
Water,
Alcohol . . . . . each, a sufficient quantity.

Reduce the fresh Pancreas of the Hog, freed as much as possible from fat and membranes, to a fine paste by means of a suitable chopping machine. Mix it with half its weight of cold Water, and knead it thoroughly and frequently during one hour; then transfer the mass to a strainer, express it forcibly, filter the liquid as quickly as possible through flannel, and add to the filtrate an equal volume of Alcohol. Collect the precipitate, drain it, and free it by pressure from as much of the adherent liquid as possible. Then spread it on shallow trays, dry it by exposure to warm air, at a temperature not exceeding 40° C. (104° F.), reduce it to powder, and keep it in well-stoppered bottles.

Note.—If larger quantities of Pancreas are operated upon, and there is risk of its decomposition in presence of the water, it is advisable to saturate the latter with chloroform, which will retard decomposition for a long time.

If there be added to 4 fluidounces of tepid water, contained in a suitable

flask or bottle, first, 5 grains of Pancreatin and 20 grains of bicarbonate of sodium, and afterwards 1 pint of fresh cow's milk, previously heated to 38° C. (100.4° F.), and if this mixture be maintained at the same temperature for thirty minutes, the milk should be so completely peptonized that, on adding to a small portion of it, transferred to a test-tube, a slight excess of nitric acid, coagulation should not occur.

As peptonized milk is chiefly used as a food for the sick, and as Pancreatin is probably most largely employed for the practical purpose of peptonizing milk, it is important to observe the quality of the peptonized product yielded with any specimen of Pancreatin. Peptonized milk as prepared by the above process, or when the process is allowed to go on to the development of a very distinct bitter flavor, should not have an odor at all suggestive of rancidity. Milk has simply a marked bitter taste when thoroughly peptonized.

In place of Pancreatin, prepared by the formula above given, any other commercial preparation of the Pancreas may be used, provided it reaches the standard of peptonizing power prescribed for the former. (See also *Note* to No. 318.)

279. PEPSINUM.

Pepsin.

The digestive principle of the gastric juice, obtained from the mucous membrane of the stomach of the hog, prepared in a dry and undiluted form, and capable of dissolving not less than *five hundred* (500) *times* its own weight of hard-boiled egg-albumen, under the conditions prescribed for the process of assay below given.

Assay of Pepsin.

1. *Preliminary Assay.*—Prepare an Acidulated Water by mixing 1 liter of Distilled Water with 5 Gm. of Hydrochloric Acid. Mix 0.1 Gm. of the dry and undiluted Pepsin with 0.9 Gm. of Sugar of Milk, by thorough trituration in a wedgewood mortar. Weigh of this mixture four portions, of 0.05 Gm. (*A*),—0.06 Gm. (*B*),—0.1 Gm. (*C*),—and 0.2 Gm. (*D*), respectively, place each portion into a wide-mouthed flask, or bottle of the capacity of about 200 C.c., together with 80 C.c. of the Acidulated Water, previously warmed, and set the flasks in a water-bath, the temperature of which is maintained constantly at 51.6° C. (125° F.). After twenty minutes, add to the contents of each flask 10 Gm. of hard-boiled egg-albumen, prepared by boiling fresh eggs for fifteen minutes, then separating the whites and rubbing this through a clean hair sieve having 30 meshes to the linear inch. Each portion of 10 Gm. of egg albumen is to be put into a small warmed mortar, triturated with a portion of the fluid from one of the flasks, the mixture then transferred to the latter, and the mortar rinsed with 20 C.c. of warmed Acidulated Water, which is added to the contents of the flask. Keep the flasks in the water-bath for sixty minutes, shaking well at intervals of five minutes, and at the end of that time note the condition of the egg albumen in the several flasks. If the Pepsin is of good quality, not more than a few undissolved flakes may remain in any but the first flask (*A*). If more than this remains in the fourth flask (*D*), the Pepsin should be rejected, as being below the requisite standard.

2. *Actual Assay.*—Having thus ascertained the approximate digestive power of the Pepsin, and having found this to be of satisfactory strength, make at least two assays, in precisely the same manner as just described, but using such a pro-

portion of egg albumen that about one-fourth of it will remain undissolved at the close of the experiment.

Then add to the contents of the flask 3 Gm. of finely scraped and purified asbestos, previously dried to a constant weight, and afterwards add 100 C.c. of cold distilled water. Shake the flask strongly, until the asbestos has clarified the liquid as far as possible, then transfer the contents of the flask to a tared filter (deprived of matters soluble in hydrochloric acid), wash the residue with distilled water, until the washings cease to affect test-solution of nitrate of silver acidulated with nitric acid, and dry the filter with contents at a temperature of 105° C. (221° F.), to a constant weight. From this deduct the weight of the filter and asbestos. Multiply the remainder (representing the undigested and dried albumen) by 7.5, to find the quantity of moist egg albumen to which it corresponds, and deduct the product from the amount originally used, to ascertain the proportion dissolved by the Pepsin.

Note.—Finely scraped asbestos has been found to be the best medium for clarifying liquids containing peptones. Pure, white, fibrous asbestos should be scraped with a knife so as to obtain a fine feathery mass, which is boiled with diluted hydrochloric acid, then thoroughly washed with water, and dried. If it is to be used in quantitative determinations requiring its subsequent ignition, it should be ignited before its tare is taken.

280. PEPSINUM AROMATICUM.

Aromatic Pepsin.

Saccharated Pepsin	1	troy ounce.
Aromatic Fluid Extract (U. S. P.)	30	minims.
Tartaric Acid	8	grains.
Chloride of Sodium	8	"

Mix the ingredients by trituration, dry the product by exposure to warm air, and keep it in well-stoppered bottles.

281. PEPSINUM SACCHARATUM.

Saccharated Pepsin.

Pepsin (N. F.)	a sufficient quantity.
Sugar of Milk	enough to make 100 parts.

Triturate as many parts of the Pepsin as may be found to be capable of dissolving *five thousand* (5,000) *parts* of egg albumen by the process of assay given under *Pepsinum*, with enough Sugar of Milk to make *one hundred* (100) *parts*.

Note.—The process of assay given under *Pepsinum* (see No. 279) is also applicable to this preparation.

Pepsinum Saccharatum is officinal in the U. S. P., but no process is there given for its preparation. The product obtained by the above formula corresponds, in strength, to that intended by the U. S. P.

282. PILULÆ.

Pills.

Note.—In stating the quantities of the several ingredients for each single pill, in the formulæ hereafter given, it was often necessary to choose the nearest simple

fraction, approximating the true value. When a larger number of pills is to be prepared in accordance with the given proportions, and the quantities of the ingredients are to be determined by multiplying with the number of pills required, it is recommended that the nearest whole number, or nearest convenient fraction, in each case, be chosen.

283. PILULÆ AD PRANDIUM.

Dinner Pills.

1. When "Dinner Pills," under this or some other equivalent name, are prescribed without further specification, it is recommended that the *Pilulæ Aloes et Mastiches* of the U. S. P., also called Lady Webster's Dinner Pills, be dispensed.

Note.—Of other combinations, bearing similar names, or used for similar purposes, the following appear to be those most commonly in use:

2. *Chapman's Dinner Pill.*

	Each pill contains:
Aloes	1½ grains.
Mastic	1½ "
Ipecac, in fine powder	1 grain.
Oil of Fennel, about	¼ minim.

3. *Cole's Dinner Pill.*

	Each pill contains:
Aloes	1⅕ grains.
Mass of Mercury	1⅕ "
Jalap, in fine powder	1⅕ "
Tartrate of Antimony and Potassium	1/60 "

4. *Hall's Dinner Pill.*

	Each pill contains:
Aloes	1 grain.
Extract of Glycyrrhiza	1 "
Soap, in powder	1 "
Molasses	1 "

284. PILULÆ ALOES ET PODOPHYLLI COMPOSITÆ.

Compound Pills of Aloes and Podophyllum.

Janeway's Pills.

	Each pill contains:
Aloes	1 grain.
Resin of Podophyllum	⅓ "
Alcoholic Extract of Belladonna	¼ "
Extract of Nux Vomica	¼ "

285. PILULÆ ALOINI COMPOSITÆ.

Compound Pills of Aloin.

	Each pill contains:
Aloin	½ grain.
Resin of Podophyllum	⅛ "
Extract of Belladonna	¼ "

286. PILULÆ ALOINI, STRYCHNINÆ ET BELLADONNÆ.

Pills of Aloin, Strychnine and Belladonna.

	Each pill contains:
Aloin	$\frac{1}{6}$ grain.
Strychnine, alkaloid	$\frac{1}{120}$ "
Alcoholic Extract of Belladonna	$\frac{1}{8}$ "

Note.—These pills are also prepared with double the amount of Strychnine. It is recommended that the stronger pills be dispensed only when specially demanded.

287. PILULÆ ALOINI, STRYCHNINÆ ET BELLADONNÆ COMPOSITÆ.

Compound Pills of Aloin, Strychnine and Belladonna.

	Each pill contains:
Aloin	$\frac{1}{6}$ grain.
Strychnine, alkaloid	$\frac{1}{120}$ "
Alcoholic Extract of Belladonna	$\frac{1}{8}$ "
Extract of Rhamnus Purshiana	$\frac{1}{2}$ "

Note.—If Extract of Rhamnus Purshiana is not available, take Fluid Extract of Rhamnus Purshiana, prepared without Glycerin (see No. 165), and evaporate it, on a water-bath, to a pilular consistence.

These pills are also prepared with double the amount of Strychnine. It is recommended that the stronger pills be dispensed only when specially demanded.

288. PILULÆ ANTIDYSPEPTICÆ.

Antidyspeptic Pills.

	Each pill contains:
Strychnine, alkaloid	$\frac{1}{40}$ grain.
Ipecac, in fine powder	$\frac{1}{10}$ "
Alcoholic Extract of Belladonna	$\frac{1}{10}$ "
Mass of Mercury	2 grains.
Compound Extract of Colocynth	2 "

289. PILULÆ ANTINEURALGICÆ.

Antineuralgic Pills.

1. *Gross' Antineuralgic Pills.*	*Each pill contains:*
Sulphate of Quinine	2 grains.
Sulphate of Morphine	$\frac{1}{30}$ grain.
Strychnine, alkaloid	$\frac{1}{30}$ "
Arsenious Acid	$\frac{1}{20}$ "
Extract of Aconite Leaves (U. S. P. 1870)	$\frac{1}{2}$ "

Note.—When "Antineuralgic Pills," or "Neuralgia Pills," without other

specification, are prescribed, it is recommended that the above preparation be dispensed. Sometimes the Sulphate of Morphine is directed to be omitted.

2. *Brown-Séquard's Antineuralgic* (or *Neuralgia*) *Pills* have the following composition:

	Each pill contains:
Extract of Hyoscyamus	$\frac{2}{3}$ grain.
Extract of Conium	$\frac{2}{3}$ "
Extract of Ignatia	$\frac{1}{2}$ "
Extract of Opium	$\frac{1}{2}$ "
Extract of Aconite Leaves (U. S. P. 1870)	$\frac{1}{3}$ "
Extract of Indian Cannabis	$\frac{1}{4}$ "
Extract of Stramonium	$\frac{1}{3}$ "
Alcoholic Extract of Belladonna	$\frac{1}{6}$ "

290. PILULÆ ANTIPERIODICÆ.

Antiperiodic Pills.

Warburg's Pills.

1. *With Aloes:*	*Each pill contains:*
Aqueous Extract of Aloes	1 grain.
Rhubarb	$\frac{1}{2}$ "
Angelica, seed	$\frac{1}{2}$ "
Elecampane	$\frac{1}{4}$ "
Saffron	$\frac{1}{4}$ "
Fennel	$\frac{1}{4}$ "
Zedoary, root	$\frac{1}{3}$ "
Cubebs	$\frac{1}{3}$ "
Myrrh	$\frac{1}{8}$ "
White Agaric	$\frac{1}{3}$ "
Camphor	$\frac{1}{3}$ "
Sulphate of Quinine	$1\frac{2}{3}$ grains.
Extract of Gentian	a sufficient quantity.

Reduce the drugs to a fine, uniform powder, and make this into pills, by means of Extract of Gentian, in accordance with the formula above given.

2. *Without Aloes:*

Prepare the pills in the same manner as directed in the previous formula, but omit the Aqueous Extract of Aloes.

Note.—These pills have been introduced for the purpose of facilitating the administration of Warburg's Tincture in a solid form. When "Warburg's Pills," or "Pills of Warburg's Tincture" are prescribed, without further specification, those containing Aloes should be dispensed. Those without Aloes should be furnished only when they are expressly demanded.

Each Warburg's Pill represents about 1 fluidrachm of Warburg's Tincture, with or without aloes, respectively (see *Tinctura Antiperiodica*).

291. PILULÆ CATHARTICÆ VEGETABILES.

Vegetable Cathartic Pills.

"Improved" Vegetable Cathartic Pills.

	Each pill contains:
Compound Extract of Colocynth	1 grain.
Resin of Podophyllum	¼ "
Extract of Leptandra	¼ "
Abstract of Jalap, in fine powder	½ "
Extract of Hyoscyamus	½ "
Extract of Gentian	½ "
Oil of Peppermint	⅛ minim.

Note.—Extract of Leptandra (U. S. P.) is preferable to the so-called Leptandrin, or Resin of Leptandra, as this is of very uncertain and varying composition.

292. PILULÆ COLOCYNTHIDIS COMPOSITÆ.

Compound Pills of Colocynth.

Pilulæ Cocciæ. Cochia Pills.

	Each pill contains:
Extract of Colocynth	⅙ grain.
Aloes	2 grains.
Resin of Scammony	2 "
Oil of Cloves	¼ minim.

Note.—The *Pilula Colocynthidis Composita* of the Brit. Pharm., for which the above is an equivalent, is prepared with Colocynth Pulp, and contains Sulphate of Potassium, which was originally added as an aid to reduce the ingredients to powder. With the use of Extract of Colocynth, this becomes unnecessary.

The Brit. Pharm. directs the above to be kept as a pill-mass, to be made into pills of such weight as may be prescribed. When such specification is omitted, it is recommended to dispense pills containing the quantities above directed.

293. PILULÆ COLOCYNTHIDIS ET HYOSCYAMI.

Pills of Colocynth and Hyoscyamus.

	Each pill contains:
Extract of Colocynth	1/10 grain.
Aloes	1½ grains.
Resin of Scammony	1½ "
Oil of Cloves	⅛ minim.
Extract of Hyoscyamus	1½ grains.

Note.—The *Pilula Colocynthidis et Hyoscyami* of the Brit. Pharm. is directed to be made by mixing 2 parts of Compound Pill of Colocynth (see No. 292) with 1 part of Extract of Hyoscyamus, and is directed to be kept as a pill-mass, to be made into pills of such weight as may be directed. When such specification is omitted, it is recommended to dispense pills containing the quantities above directed.

294. PILULÆ COLOCYNTHIDIS ET PODOPHYLLI.

Pills of Colocynth and Podophyllum.

	Each pill contains:
Compound Extract of Colocynth	2½ grains.
Resin of Podophyllum	½ grain.

295. PILULÆ FERRI CARBONATIS.

Pills of Carbonate of Iron.

Ferruginous Pills. Blaud's Pills. Chalybeate Pills.

Sulphate of Iron, in clear crystals	240 grains.
Carbonate of Potassium	140 "
Sugar	48 "
Tragacanth, in fine powder	16 "
Glycerin	10 minims.
Water	a sufficient quantity.

Triturate the Sulphate of Iron with the Sugar to a uniform powder. In another mortar triturate the Carbonate of Potassium with the Glycerin and *ten* (10) *minims* of Water. Add to this mixture the previously prepared powder, and beat the mass thoroughly until it assumes a greenish color. When the reaction appears to have terminated, incorporate the Tragacanth, and, if necessary, add a little more Water, so as to obtain a mass of a pilular consistence. Divide this into *ninety-six* (96) *pills.*

Each pill represents about 1 grain of Carbonate of Iron (ferrous).

Note.—Sometimes so-called "3 grain" Blaud's Pills (*Pilulæ Blaudii minores*) are prescribed or demanded. These may be prepared by using the quantities given in the above formula, and dividing the mass into *one hundred and sixty-eight* (168) *pills.*

296. PILULÆ GLONOINI.

Pills of Glonoin.

Pills of Nitroglycerin.

Spirit of Glonoin (N. F., 1%)	200 grains.
Althæa, in fine powder	198 "
Confection of Rose	a sufficient quantity.

Mix the Spirit of Glonoin intimately with the powdered Althæa, expose the mixture for a short time to the air, so that the alcohol may evaporate, then make a pill-mass by means of Confection of Rose, and divide it into *two hundred* (200) *pills.*

Each pill contains $\frac{1}{100}$ *grain of Glonoin (Nitroglycerin).*

297. PILULÆ LAXATIVÆ POST PARTUM.

Laxative Pills after Confinement.

Barker's Post Partum Pills.

	Each pill contains:
Compound Extract of Colocynth	$1\frac{2}{3}$ grains.
Aloes	$\frac{5}{6}$ grain.
Extract of Nux Vomica	$\frac{5}{12}$ "
Resin of Podophyllum	$\frac{1}{12}$ "
Ipecac, in fine powder	$\frac{1}{12}$ "
Extract of Hyoscyamus	$1\frac{1}{4}$ "

Note.—This is the formula generally employed by Dr. Fordyce Barker, except where special circumstances render modifications necessary. The formula usually quoted in manufacturers' lists and some formularies is not correct.

298. PILULÆ METALLORUM.

Metallic Pills.

Pilulæ Metallorum Amaræ. Bitter Metallic Pills.

	Each pill contains:
Reduced Iron	1 grain.
Sulphate of Quinine	1 "
Strychnine, alkaloid	$\frac{1}{20}$ "
Arsenious Acid	$\frac{1}{20}$ "

Note.—A similar combination is known under the name of *Aitken's Tonic Pills:*

	Each pill contains:
Reduced Iron	$\frac{2}{3}$ grain.
Sulphate of Quinine	1 "
Strychnine, alkaloid	$\frac{1}{50}$ "
Arsenious Acid	$\frac{1}{50}$ "

299. PILULÆ OPII ET CAMPHORÆ.

Pills of Opium and Camphor.

	Each pill contains:
Powdered Opium	1 grain.
Camphor	2 grains.

300. PILULÆ OPII ET PLUMBI.

Pills of Opium and Lead.

	Each pill contains:
Powdered Opium	1 grain.
Acetate of Lead	1 "

301. PILULÆ PODOPHYLLI, BELLADONNÆ ET CAPSICI.

Pills of Podophyllum, Belladonna and Capsicum.

Squibb's Podophyllum Pills.

	Each pill contains:
Resin of Podophyllum	¼ grain.
Alcoholic Extract of Belladonna	⅓ "
Capsicum, in moderately fine powder	½ "
Sugar of Milk, in fine powder	1 "
Acacia, in fine powder	¼ "
Glycerin, Syrup	each, a sufficient quantity.

302. PILULÆ QUADRUPLICES.

Quadruplex Pills.

Quatuor Pills. Pilulæ Ferri et Quininæ Compositæ.

	Each pill contains:
Dried Sulphate of Iron	1 grain.
Sulphate of Quinine	1 "
Aloes	1 "
Extract of Nux Vomica	¼ "
Extract of Gentian	a sufficient quantity.

303. PILULÆ TRIPLICES.

Triplex Pills.

Pilula Triplex.

	Each pill contains:
1. Aloes	2 grains.
Mass of Mercury	1 grain.
Resin of Podophyllum	¼ "

Note.—When *Pilula Triplex*, under this name or some equivalent, is prescribed without further specification, it is recommended that the above preparation be dispensed. A formula devised by Dr. John W. Francis is also in use:

2. *Francis' Triplex Pill.*

Aloes	⅚ grain.
Scammony	⅚ "
Mass of Mercury	⅚ "
Croton Oil	1/20 minim.
Oil of Caraway	¼ "
Tincture of Aloes and Myrrh	a sufficient quantity.

304. POTASSII BROMIDUM EFFERVESCENS.

Effervescent Bromide of Potassium.

Bromide of Potassium	400 parts.
Bicarbonate of Sodium	600 "
Tartaric Acid	540 "
Sugar, in very fine powder	260 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

If the compound is required in form of a granular powder, mix it with Alcohol to a soft paste, and rub this through a No. 20 tinned-iron sieve, or enameled colander. Then dry it, and reduce it to a coarse, granular powder.

Ninety (90) grains (or about a heaped teaspoonful) of the above compound represent 20 grains of Bromide of Potassium.

305. POTASSII BROMIDUM EFFERVESCENS CUM CAFFEINA.

Effervescent Bromide of Potassium with Caffeine.

Bromide of Potassium	200 parts.
Caffeine	20 "
Bicarbonate of Sodium	600 "
Tartaric Acid	540 "
Sugar, in very fine powder	440 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

If the compound is required in form of a granular powder, mix it with Alcohol to a soft paste, and rub this through a No. 20 tinned-iron sieve, or enamelled colander. Then dry it, and reduce it to a coarse, granular powder.

Ninety (90) grains (or about a heaped teaspoonful) of the above compound represent 10 grains of Bromide of Potassium and 1 grain of Caffeine.

306. POTASSII CITRAS EFFERVESCENS.

Effervescent Citrate of Potassium.

Citrate of Potassium	200 parts.
Bicarbonate of Sodium	600 "
Tartaric Acid	540 "
Sugar, in very fine powder	460 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

If the compound is required in form of a granular powder, mix it with Alcohol to a soft paste, and rub this through a No. 20 tinned-iron sieve, or enamelled colander. Then dry it, and reduce it to a coarse, granular powder.

Ninety (90) grains (or about a heaped teaspoonful) of the above compound represent 10 grains of Citrate of Potassium.

307. PULVIS ACACIÆ COMPOSITUS.

Compound Powder of Acacia.

Pulvis Gummosus (Germ. Pharm.)

Acacia, in fine powder	15 parts.
Glycyrrhiza, in fine powder	10 "
Sugar, in fine powder	5 "

Mix them intimately.

308. PULVIS ALOES ET CANELLÆ.

Powder of Aloes and Canella.

Hiera Picra.

Aloes, in fine powder	4 parts.
Canella, in fine powder	1 part.

Mix them intimately.

309. PULVIS AMYGDALÆ COMPOSITUS.

Compound Powder of Almond.

Sweet Almond	6 parts.
Sugar, in fine powder	3 "
Acacia, in fine powder	1 part.

Blanch the Sweet Almond, then dry them thoroughly with a soft cloth, and rub them lightly in a mortar, until they form a mass of a smooth consistence. Mix the Acacia and Sugar, add them to the mass previously prepared, and rub the whole to a coarse powder, which is to be preserved in a lightly covered jar.

Note.—If 820 grains of this preparation be thoroughly triturated with 17 fluidounces of Water, gradually added, and the mixture finally strained, the product will be about 16 fluidounces of *Mistura Amygdalæ* (U. S. P.).

310. PULVIS ANTICATARRHALIS.

Catarrh Powder.

Catarrh Snuff.

Hydrochlorate of Morphine	1 part.
Acacia, in fine powder	60 parts.
Subnitrate of Bismuth	180 "

Mix them intimately by trituration.

311. PULVIS CATECHU COMPOSITUS.

Compound Powder of Catechu.

Catechu, in fine powder	4 parts.
Kino, in fine powder	2 "
Krameria, in fine powder	2 "
Cinnamon, in fine powder	1 part.
Nutmeg, in fine powder	1 "

Mix them intimately, pass the powder through a fine sieve, and afterwards rub it lightly in a mortar. Keep it in a stoppered bottle.

Note.—This preparation is officinal in the Brit. Pharm.

312. PULVIS CRETÆ AROMATICUS.

Aromatic Powder of Chalk.

Cinnamon	4 parts.
Saffron	3 "
Nutmeg	3 "
Cloves	1½ "
Cardamom	1 part.
Prepared Chalk	11 parts.
Sugar	25 "

Mix the ingredients and reduce them to a fine powder. Pass this through a fine sieve, and afterwards rub it lightly in a mortar. Keep it in a stoppered bottle.

Note.—This preparation is equivalent to the *Pulvis Cretæ Aromaticus* of the Brit. Pharm. This authority adds the following note: "If a product of bright color be desired, the saffron may previously be moistened and triturated with a little water or alcohol, or the fresh and faintly damp mixture may be subjected to considerable pressure in the triturating process."

313. PULVIS CRETÆ AROMATICUS CUM OPIO.

Aromatic Powder of Chalk with Opium.

Aromatic Powder of Chalk	39 parts.
Powdered Opium	1 part.

Mix them intimately.

Every 40 grains of this preparation contain 1 grain of Powdered Opium.

Note.—This preparation is officinal in the Brit. Pharm.

314. PULVIS HYDRARGYRI CHLORIDI MITIS ET JALAPÆ.

Powder of Mild Chloride of Mercury and Jalap.

Calomel and Jalap.

Mild Chloride of Mercury	10 grains.
Jalap, in fine powder	20 "

Mix them intimately.

Note.—When "Calomel and Jalap" is prescribed for an adult, without any specification of quantities, it is recommended that the above mixture be dispensed as one dose.

315. PULVIS IODOFORMI DILUTUS.

Diluted Powder of Iodoform.

Iodoform and Naphthalin.

Iodoform, in fine powder	2 troy ounces.
Boric Acid, in fine powder	3 " "
Naphthalin	5 " "
Oil of Bergamot	120 minims.

Triturate the Naphthalin with the Oil of Bergamot, then mix it with the Iodoform and Boric Acid, and triturate until a homogeneous powder is produced.

Note.—This powder is used in many cases, where a *diluted* preparation of Iodoform, for external purposes, is desired. The odor of the Iodoform is masked both by the Oil of Bergamot, and by the Naphthalin.

316. PULVIS KINO COMPOSITUS.

Compound Powder of Kino.

Kino, in fine powder	15 parts.
Powdered Opium	1 part.
Cinnamon, in fine powder	4 parts.

Mix them intimately, pass the mixed powder through a moderately fine sieve, and afterwards rub it lightly in a mortar. Keep it in a stoppered bottle.

Every 20 grains of this preparation contain 1 grain of Powdered Opium.

Note.—This preparation is officinal in the Brit. Pharm.

317. PULVIS MYRICÆ COMPOSITUS.

Compound Powder of Bayberry.

Composition Powder.

Bayberry, bark of the root	12 parts.
Ginger	6 "
Capsicum	1 part.
Cloves	1 "

Reduce the substances to a moderately fine powder.

Note—Bayberry root bark is derived from *Myrica cerifera* Linné (Wax-myrtle; Candleberry).

318. PULVIS PANCREATICUS COMPOSITUS.

Compound Pancreatic Powder.

Peptonizing Powder.

Pancreatin (N. F.)	5 grains.
Bicarbonate of Sodium	20 "

Mix them by trituration.

Note.—If Pancreatin of proper strength (see No. 278) is not available, any other commercial preparation of the pancreas, as, for instance, the extract, may be used in place of it, provided it attains the required standard.

The quantities above given are sufficient to peptonize 1 pint of fresh cow's milk, by proceeding in the following manner:

Add the Compound Pancreatic Powder to 4 fluidounces of tepid Water, contained in a suitable flask, and afterwards add 1 pint of fresh cow's Milk, previously heated to 38° C. (100.4° F.). Maintain the mixture at this temperature during thirty minutes, then transfer the flask to a cold place.

Milk thus peptonized should not be used when it has been kept over twenty-four hours, or when it has developed a bitter taste.

319. PULVIS PEPSINI COMPOSITUS.

Compound Powder of Pepsin.

Pulvis Digestivus.

Saccharated Pepsin	150 grains.
Pancreatin (N. F.)	150 "
Diastase	10 "
Lactic Acid	10 minims.
Hydrochloric Acid	20 "
Sugar of Milk	enough to make 1000 grains.

Add the Acids gradually to the Sugar of Milk, and triturate until they are thoroughly mixed. Mix the Pepsin, Pancreatin and Diastase, and then incorporate this mixture, by trituration, with the Sugar of Milk. Finally, rub the mixture through a hair-sieve, and preserve the powder in bottles.

Note.—The best commercial variety of Diastase, capable of converting the largest comparative amount of starch into dextrin and glucose, should be used for this preparation.

320. PULVIS RHEI ET MAGNESIÆ ANISATUS.

Anisated Powder of Rhubarb and Magnesia.

Compound Anise Powder.

Rhubarb, in fine powder	1 troy ounce.
Heavy Magnesia, calcined	2 troy ounces.
Oil of Anise	110 minims.
Alcohol	160 "

Mix the powders, add the Oil of Anise previously dissolved in the Alcohol, and triturate until a uniform mixture results.

321. PULVIS TALCI SALICYLICUS.

Salicylated Powder of Talcum.

Salicylic Acid	3 parts.
Boric Acid, in fine powder	10 "
Talcum, in fine powder	87 "

Mix them intimately.

Note.—The corresponding preparation of the Germ. Pharm. has the title *Pulvis Salicylicus cum Talco*, and contains 10 parts of Wheat Starch in place of Boric Acid.

322. SAL CAROLINUM FACTITIUM.

Artificial Carlsbad Salt.

I. *In a dry, amorphous form* (Germ. Pharm.).

Sulphate of Potassium	2 parts.
Chloride of Sodium	18 "
Bicarbonate of Sodium	36 "
Sulphate of Sodium, dried	44 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

Note.—The dried Sulphate of Sodium is prepared by slowly drying the crystalline salt until it has lost one-half of its weight.

II. *In a crystalline form.*

Sulphate of Potassium	2 parts.
Chloride of Sodium	18 "
Carbonate of Sodium, in clear crystals	61 "
Sulphate of Sodium, crystallized	88 "
Distilled Water	50 "

Dissolve the Sulphate of Potassium and Chloride of Sodium in the Distilled Water, and add this solution to the other two salts, previously melted in a tared capsule and at a gentle heat in their own water of crystallization. Evaporate the mixture to about *one hundred and eighty* (180) *parts*, set it aside in a cool place, and stir frequently, so as to prevent the formation of large crystals, taking care, however, that none of the salt separate in a pulverulent form. Distribute any remaining water of crystallization uniformly over the crystals, and dry the whole mixture sufficiently by exposure to air, so that it will retain its crystalline character.

A solution of about 16 grains of the dry, or about 27 grains of the crystalline salt, in 6 fluidounces of water, represents an equal volume of Carlsbad Water (Sprudel) in its essential constituents.

Note.—The salts employed in the preparation of the crystalline form, must have been purified by recrystallization.

323. SAL CAROLINUM FACTITIUM EFFERVESCENS.

Artificial Effervescent Carlsbad Salt.

Artificial Carlsbad Salt, in form of dry powder	320 parts.
Bicarbonate of Sodium	630 "
Tartaric Acid	560 "
Sugar, in very fine powder	240 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

If the compound is required in form of a granular powder, mix it

with Alcohol to a soft paste, and rub this through a No. 20 tinned-iron sieve, or enamelled colander. Then dry it, and reduce it to a coarse, granular powder.

A solution of about 87 grains of this preparation, in 6 fluidounces of water, represents an equal volume of Carlsbad Water (Sprudel), in its essential constituents.

324. SAL KISSINGENSE FACTITIUM.

Artificial Kissingen Salt.

Chloride of Potassium	17 parts.
Chloride of Sodium	357 "
Sulphate of Magnesium, anhydrous	59 "
Bicarbonate of Sodium	107 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

A solution of about 24 grains of this preparation, in 6 fluidounces of water, represents an equal volume of Kissingen Water (Rakoczi Spring) in its essential constituents.

325. SAL KISSINGENSE FACTITIUM EFFERVESCENS.

Effervescent Artificial Kissingen Salt.

Artificial Kissingen Salt	540 parts.
Bicarbonate of Sodium	540 "
Tartaric Acid	480 "
Sugar, in very fine powder	240 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

If the compound is required in form of a granular powder, mix it with Alcohol to a soft paste, and rub this through a No. 20 tinned-iron sieve, or enamelled colander. Then dry it, and reduce it to a coarse, granular powder.

A solution of about 80 grains of this preparation, in 6 fluidounces of water, represents an equal volume of Kissingen Water (Rakoczi Spring) in its essential constituents.

326. SAL VICHYANUM FACTITIUM.

Artificial Vichy Salt.

Bicarbonate of Sodium	352 parts.
Carbonate of Potassium	16 "
Sulphate of Magnesium, anhydrous	16 "
Chloride of Sodium	32 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

A solution of about 14 grains of this preparation, in 6 fluidounces of water, represents an equal volume of Vichy Water (Grande Grille Spring) in its essential constituents.

327. SAL VICHYANUM FACTITIUM EFFERVESCENS.

Artificial Effervescent Vichy Salt.

Artificial Vichy Salt	430 parts.
Bicarbonate of Sodium	570 "
Tartaric Acid	510 "
Sugar, in very fine powder	240 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

If the compound is required in form of a granular powder, mix it with Alcohol to a soft paste, and rub this through a No. 20 tinned-iron sieve, or enamelled colander. Then dry it, and reduce it to a coarse, granular powder.

A solution of about 57 grains of this preparation, in 6 fluidounces of water, represents an equal volume of Vichy Water (Grande Grille Spring), in its essential constituents.

328. SAL VICHYANUM FACTITIUM EFFERVESCENS CUM LITHIO.

Artificial Effervescent Vichy Salt with Lithium.

Artificial Vichy Salt	280 parts.
Citrate of Lithium	100 "
Bicarbonate of Sodium	610 "
Tartaric Acid	540 "
Sugar	270 "

Triturate the ingredients, previously well dried, to a fine, uniform powder.

If the compound is required in form of a granular powder, mix it with Alcohol to a soft paste, and rub this through a No. 20 tinned-iron sieve, or enamelled colander. Then dry it, and reduce it to a coarse, granular powder.

Ninety (90) grains (or about a heaped teaspoonful) of this preparation represent 14 grains of Artificial Vichy Salt and 5 grains of Citrate of Lithium.

329. SAPO VIRIDIS.

Green Soap.

Potassa	8 parts.
Water	12 "
Cotton Seed Oil	24 "

Dissolve the Potassa in the Water, and while stirring the solution, add the Cotton Seed Oil. Stir it occasionally during forty-eight hours, then transfer the product to suitable vessels.

Note.—If refined Cotton Seed Oil is used for this preparation, the product will have a yellowish color, free from greenish tint, but will answer the same purpose.

330 SODA CUM CALCE.

Soda with Lime.

London Paste.

Soda,	
Lime, each	equal parts.

Reduce them to powder in a clean iron mortar, previously warmed, and mix them intimately. Keep the powder in small well-stoppered vials.

331. SODII BORO-BENZOAS.

Boro-Benzoate of Sodium.

Borate of Sodium, in fine powder	8 parts.
Benzoate of Sodium	4 "

Mix them intimately.

332. SPECIES EMOLLIENTES.

Emollient Species.

Emollient Cataplasm. (Germ. Pharm.).

Althæa Leaves,	
Mallow Leaves,	
Melilot Tops,	
Matricaria,	
Flaxseed, each	equal parts.

Reduce them to a coarse powder, and mix it uniformly.

Note.—Mallow Leaves are derived from *Malva vulgaris* Fries and *Malva sylvestris* Linné. Melilot Tops are the leaves and flowering branches of *Melilotus officinalis* Desrousseaux, and *Melilotus altissimus* Thuilliers.

333. SPECIES LAXANTES.

Laxative Species.

St. Germain Tea. (Germ. Pharm.).

Senna, cut	16 parts.
Elder Flowers	10 "
Fennel, bruised	5 "
Anise, bruised	5 "
Bitartrate of Potassium, in fine powder	4 "

Moisten the Senna with a small quantity of water; then sprinkle over it, as uniformly as possible, the Bitartrate of Potassium. When it has become dry, mix it lightly and uniformly with the other ingredients.

334. SPECIES PECTORALES.

Pectoral Species.

Species ad Infusum Pectorale. Breast Tea. (Germ. Pharm.).

Althæa, peeled	8 parts.
Coltsfoot Leaves	4 "
Glycyrrhiza, Russian, peeled	3 "
Anise	2 "
Mullein Flowers	2 "
Orris Root	1 "

Cut, bruise and mix them.

Note.—Coltsfoot Leaves are derived from *Tussilago Farfara* Linné. Mullein Flowers are from *Verbascum Thapsus* G. Meyer.

Infusum pectorale (Pectoral Infusion, or Infusion of Pectoral Species) is made by infusing 1 troy ounce of the above preparation, in the usual manner, so as to obtain 10 fluidounces of strained product.

335. SPIRITUS ACIDI FORMICI.

Spirit of Formic Acid.

Spiritus Formicarum (Germ. Pharm.). *Spirit of Ants.*

Formic Acid	250 minims.
Distilled Water	3½ fluidounces.
Alcohol	enough to make 16 "

Mix the Formic Acid with the Distilled Water, and add enough Alcohol to make *sixteen* (16) *fluidounces.*

Note.—Formic Acid is required by the Germ. Pharm. to have a specific gravity of 1.060 to 1.063.

336. SPIRITUS AMYGDALÆ AMARÆ.

Spirit of Bitter Almond.

Essence of Bitter Almond.

Oil of Bitter Almond	160 minims.
Alcohol	14 fluidounces.
Distilled Water	enough to make 16 "

Dissolve the Oil in the Alcohol, and add enough Distilled Water to make *sixteen* (16) *fluidounces.*

337. SPIRITUS AROMATICUS.

Aromatic Spirit.

Compound Spirit of Orange (N. F.)	8 fluidounces.
Deodorized Alcohol	7½ pints.

Mix them. Preserve the product, if it is to be kept in stock, in completely filled and well-stoppered vials or bottles, and stored in a cool and dark place.

Aromatic Spirit may also be prepared in the following manner:

Sweet Orange Peel, fresh, and deprived of the white, inner portion	16 troy ounces.
Lemon Peel, fresh	2 " "
Coriander, bruised	2 " "
Oil of Staranise	16 minims.
Deodorized Alcohol	enough to make 1 gallon.

Macerate the solids during four days with 1 gallon of Deodorized Alcohol; then add the Oil of Staranise, filter, and pass enough Deodorized Alcohol through the filter to make the product measure *one* (1) *gallon.*

Note.—When good, fresh essential oils cannot be readily obtained for preparing the Compound Spirit of Orange, the second formula may be used. But the product obtained by it should not be employed in mixtures containing *iron*, as the latter would cause a darkening of the mixture.

338. SPIRITUS AURANTII COMPOSITUS.

Compound Spirit of Orange.

Oil of Bitter Orange Peel	4 fluidounces.
Oil of Lemon	1 fluidounce.
Oil of Coriander	160 minims.
Oil of Staranise	40 "
Deodorized Alcohol	enough to make 20 fluidounces.

Mix them.

Note.—One fluidounce of this Spirit and 15 fluidounces of Deodorized Alcohol, make 1 pint of Aromatic Spirit. (See No. 337).

The essential oils used in this preparation, particularly those of orange and lemon, must be as fresh as possible, and *absolutely free* from any terebinthinate odor or taste. They should be diluted as soon as received, with a definite quantity of Deodorized Alcohol, which will retard deterioration. They should not be kept in stock, undiluted, for any length of time, or should at least be kept in bottles completely filled, and in a dark place. The alcoholic solution should be kept in the same manner. If Oil of Curaçao Orange of good quality can be obtained, it is advisable to use this, in place of ordinary oil of orange, as it imparts to the Spirit a finer flavor.

339. SPIRITUS CARDAMOMI COMPOSITUS.

Compound Spirit of Cardamom.

Oil of Cardamom	12 minims.
Oil of Caraway	4 "
Oil of Cinnamon, Cassia	2 "
Alcohol	8 fluidounces.
Glycerin	1 fluidounce.
Water	enough to make 16 fluidounces.

Dissolve the Oils in the Alcohol, add the Glycerin, and lastly, enough Water to make *sixteen* (16) *fluidounces.*

Note.—This preparation is intended as a flavoring ingredient, being equivalent to the officinal *Tinctura Cardamomi Composita*, without the coloring matter.

340. SPIRITUS CURASSAO.

Spirit of Curaçao.

Oil of Curaçao Orange	2 fluidounces.
Oil of Fennel	15 minims.
Oil of Bitter Almond	3 "
Deodorized Alcohol	10 fluidounces.

Mix the Oils with the Deodorized Alcohol, and keep the Spirit in completely filled and well-corked bottles, and stored in a cool and dark place.

Note.—The essential oils used in this case must be as fresh as possible, and *absolutely free* from any terebinthinate odor or taste. Oil of Curaçao Orange may be obtained without difficulty in the market, but it should be carefully examined as to its quality, immediately upon receipt, and should not be kept in stock, for any length of time, without special precautions (see Note to No. 338). A still finer quality of Oil of Orange is that derived from Citrus nobilis, which is known in the market as Oil of Mandarin.

341. SPIRITUS GLONOINI.

Spirit of Glonoin.

Spirit of Nitroglycerin. Solution of Nitroglycerin.

A solution of Glonoin (or Nitroglycerin) in officinal Alcohol, containing *one* (1) *per cent.*, by weight, of the former.

Note.—The specific gravity of this Spirit, at 15° C. (59° F.) is 0.828. On mixing 10 C.c. of the Solution with Distilled Water, in a test-tube having a diameter of ¾ inch, both liquids being at the temperature of 15° C. (59° F.), it will require about 16 C.c. of the Water to render the liquid faintly turbid (when compared with the undiluted Solution); and about 4 C.c. more of Water will be required to render it so opalescent that the eye cannot distinguish print placed behind the tube.

Glonoin (or Nitroglycerin), for medical purposes, is usually procured by wholesale dealers in drugs directly from the factory where it is made, in form of a 10 per cent. solution in alcohol. Such a solution is non-explosive, and may be diluted, as occasion requires, to the strength of 1 per cent. The specific gravity of the 10 per cent. solution is 0.863 at 15° C. (59° F.). Ten C.c. of it require about 2.5 C.c. of Distilled Water to render it so opalescent that print cannot be distinguished through it under the conditions just described in the case of the 1 per cent. solution.

Solutions of Glonoin, particularly the stronger (10 per cent.), should always be transported or kept in tin cans, and *never in glass* or other fragile vessels. Should the container of a Solution of Glonoin be broken, and the contents be soaked up by wood, or packing material, the latter may become dangerously explosive when the alcohol has evaporated. Should the proportion of glonoin to porous material be not more than 70 parts of the former, and not less than 30 parts of the latter, the compound will be non-explosive (except by a detonator); and if the proportions are not more than 52 parts of the former, and not less than 48 parts of the latter, the compound cannot even be detonated. But, in presence of substances readily yielding oxygen, such as nitrates, chlorates, etc., so small a proportion as 5 per cent. of glonoin will produce a dangerously explosive combination.

When handling an alcoholic solution of Glonoin, care should be taken that it be not brought in prolonged or extended contact with the skin, as it is readily absorbed, and will then cause its characteristic physiological effects (distressing headache, nausea, etc.).

342. SPIRITUS OLEI VOLATILIS.

Spirit of a Volatile Oil.

Any Spirit or alcoholic Solution of a Volatile Oil, for which no formula is given by the U. S. Pharm. or by this Formulary, should be prepared in accordance with the following general formula:

Any Volatile Oil	400 minims.
Deodorized Alcohol	enough to make 16 fluidounces.

Dissolve the Volatile Oil in the Deodorized Alcohol.

Note.—The strength of the Spirit thus prepared is approximately 5 per cent. by weight, provided the specific gravity of the Oil is in the neighborhood of 0.900.

343. SPIRITUS OPHTHALMICUS.

Ophthalmic Spirit.

Alcoholic Eye-Wash.

Oil of Lavender	10 minims.
Oil of Rosemary	30 "
Alcohol	1 fluidounce.

Mix them by agitation, and, if necessary, filter the liquid through paper.

344. SPIRITUS PHOSPHORI.

Spirit of Phosphorus.

Tincture of Phosphorus.

Phosphorus	10 grains.
Absolute Alcohol	enough to make 15 fluidounces.

To the Absolute Alcohol, contained in a flask, add the Phosphorus, cut into small pieces, and apply a moderate heat, by means of a water-bath, taking care to prevent, as much as possible, any loss of alcohol by evaporation, or making up any loss by adding, from time to time, a little more Absolute Alcohol. When the Phosphorus is dissolved, allow the liquid to become cold, and add enough Absolute Alcohol, if necessary, to make *fifteen* (15) *fluidounces.* Then transfer the Spirit to small, dark amber-colored vials, stopper them securely, and keep them in a cool and dark place.

Each fluidrachm contains $\frac{1}{12}$ *grain of Phosphorus; or, 14.4 minims contain* $\frac{1}{60}$ *grain of Phosphorus.*

Note.—The Phosphorus should be perfectly translucent, cut and weighed under water, and quickly dried with filtering paper, before being dropped into the Alcohol. The loss of alcohol, during the heating, may be avoided, and solution effected more expeditiously, by attaching to the flask a well-cooled

upright condenser, which will cause the vapor of the alcohol to be condensed, and to flow back into the flask. In the absence of a condenser, a long glass tube, inserted through a tight-fitting cork into the neck of the flask, and maintained in an upright position, will nearly answer the same purpose.

This preparation is intended for preparing the Elixir of Phosphorus (see No. 85). It is unsuited for internal administration without corrigents. Care should be taken that it be not confounded with Thompson's Solution of Phosphorus (see *Liquor Phosphori*, No. 228).

345. SPIRITUS SAPONATUS.

Spirit of Soap.

Castile Soap, in shavings		2½ troy ounces.
Alcohol		9 fluidounces.
Water	enough to make 16	"

Introduce the Soap into a bottle, add the Alcohol and *three* (3) *fluidounces* of Water, cork the bottle, and immerse it in hot Water, frequently shaking. When the Soap is dissolved, allow the bottle and contents to become cold, then add enough Water to make *sixteen* (16) *fluidounces*, and filter.

Note.—The *Spiritus Saponatus* of the Germ. Pharm. is prepared by saponifying Olive Oil with Potassa, and then adding Alcohol and Water.

If time permits, the Spirit ought to be set aside, in a moderately cold place, for about twelve hours, before it is filtered.

346. SPIRITUS SINAPIS.

Spirit of Mustard.

Volatile Oil of Mustard		190 minims.
Alcohol	enough to make	16 fluidounces.

Mix them.

Note.—This preparation is officinal in the Germ. Pharm.

347. SPONCIA COMPRESSA.

Compressed Sponge.

Sponge Tent.

Sponge	a sufficient quantity.
Mucilage of Acacia	1 volume.
Water	9 volumes.

Mix a sufficient quantity of Mucilage of Acacia and of Water, in the proportion of *one* (1) *volume* of the former to *nine* (9) *volumes* of the latter, and immerse in the liquid the Sponge, previously freed from sand and other obvious impurities, and cut into suitable pieces. When the Sponge has been thoroughly impregnated, firmly wrap twine around it so as to bring it to the desired shape, and then dry it.

Note.—Sponge thus prepared is best preserved with the twine wrapped around it. If the twine is removed, special care must be taken to protect the Sponge against damp air.

348. SPONGIA DECOLORATA.

Decolorized Sponge.

Bleached Sponge.

Sponge,
Permanganate of Potassium,
Hyposulphite of Sodium,
Hydrochloric Acid,
Water . . . . . each a sufficient quantity.

Free the Sponge from sand and any other obvious impurities or damaged portions by beating, washing and trimming, then soak it for about fifteen minutes in a sufficient quantity of Solution of Permanganate of Potassium, containing *one hundred and twenty* (120) *grains* to the *pint*, wringing the Sponge out occasionally and replacing it in the liquid. Then remove it and wash it with Water, until the latter runs off colorless. Wring out the Water, and then place the Sponge into a Solution of Hyposulphite of Sodium containing *one* (1) *troy ounce* to the *pint*. Next add for every *pint* of the last-named solution used, *one* (1) *fluidounce* of Hydrochloric Acid diluted with *four* (4) *fluidounces* of Water. Macerate the Sponge in the liquid for about fifteen minutes, expressing it frequently and replacing it in the liquid. Then remove it, wash it thoroughly with Water, and dry it. In the case of large and dark-colored sponges, this treatment may be repeated until the color has been removed as far as possible.

Note.—If it is desired to keep the Sponge soft, and to prevent it from shrinking when dry, it may be dipped, after having been finally washed, into a mixture of 1 volume of Glycerin and 5 volumes of Water, after which it is to be wrung out and allowed to dry.

349. SUCCUS LIMONIS CUM PEPSINO.

Lime Juice and Pepsin.

Pepsin (N. F.)	256 grains.
Water	3 fluidounces.
Glycerin	3 "
Alcohol	1½ "
Purified Talcum	120 grains.
Lime Juice . . . . . enough to make	16 fluidounces.

Dissolve the Pepsin in the Water, mixed with about *eight* (8) *fluidounces* of Lime Juice. Then add the Glycerin and Alcohol, and lastly, enough Lime Juice to make *sixteen* (16) *fluidounces*. Incorporate the Purified Talcum with the liquid, let it stand a few days in a cold place, if convenient, occasionally agitating, then filter it through a wetted filter, and finally pass enough Lime Juice through the filter to restore the original volume.

Each fluidrachm represents 2 grains of Pepsin (N. F.).

350. SYRUPUS ACIDI HYDRIODICI DECOLOR.

Colorless Syrup of Hydriodic Acid.

Iodide of Potassium	123	grains.
Hypophosphite of Potassium	3	"
Tartaric Acid	112	"
Water	½	fluidounce.
Diluted Alcohol	1	"
Syrup	enough to make 16	fluidounces.

Dissolve the Iodide and Hypophosphite of Potassium in *one-half* (½) *fluidounce* of Water, and the Tartaric Acid in *one-half* (½) *fluidounce* of Diluted Alcohol. Mix the two solutions in a vial, cork and shake it well, and then place it in ice-water for about half an hour, or longer, if convenient; again shake it thoroughly, and then pour the mixture upon a small white filter contained in a funnel, the stem of which dips below the surface of *fourteen* (14) *fluidounces* of Syrup contained in a bottle. When the liquid has run through, wash the vial and filter with *one-half* (½) *fluidounce* of Diluted Alcohol, added in several portions. Then add enough Syrup to make *sixteen* (16) *fluidounces*. Keep the product in well-stoppered bottles.

Note.—This preparation is of about the same strength, volume for volume, but not weight for weight, as the officinal *Syrupus Acidi Hydriodici*.

351. SYRUPUS ACTÆÆ COMPOSITUS.

Compound Syrup of Actæa.

Compound Syrup of Cimicifuga (or *Black Cohosh*).

Fluid Extract of Cimicifuga	300	minims.
Fluid Extract of Glycyrrhiza	150	"
Fluid Extract of Senega	150	"
Fluid Extract of Ipecac	75	"
Wild Cherry, in moderately fine powder	300	grains.
Purified Talcum	120	"
Sugar	10	troy ounces.
Water	enough to make 16	fluidounces.

Mix the Wild Cherry with *six* (6) *fluidounces* of Water, and allow it to macerate during one hour. Then add to it the Fluid Extracts and the Talcum, and stir or agitate the mixture frequently and thoroughly during about fifteen minutes. Transfer it to a wetted filter and, when the liquid ceases to drop from the funnel, wash the contents of the filter with Water to obtain *eight* (8) *fluidounces* of filtrate. In this dissolve the Sugar by agitation, and add enough Water, previously passed through the filter, to make *sixteen* (16) *fluidounces*.

352. SYRUPUS ASARI COMPOSITUS.

Compound Syrup of Asarum.

Compound Syrup of Canada Snake-Root.

Asarum root, in moderately coarse (No. 40) powder	448 grains.
Alcohol	3 fluidounces.
Cochineal, in fine powder	10 grains.
Carbonate of Potassium	20 "
Wine of Ipecac	220 minims.
Sugar	11 troy ounces.
Water	enough to make 16 fluidounces.

Mix the Asarum intimately with the Cochineal and Carbonate of Potassium, previously triturated together. Moisten the powder with a sufficient quantity of a menstruum prepared by mixing the Alcohol with *six* (6) *fluidounces* of Water, and allow it to macerate, in a covered vessel, for twenty-four hours. Then transfer it to a small percolator, and pour on the remainder of the menstruum. Allow the percolation to proceed slowly, and then follow up the menstruum by Water, until *eight* (8) *fluidounces* of percolate are obtained. To this add the Wine of Ipecac, and afterwards the Sugar, and dissolve the latter by agitation. Finally, add enough Water, previously passed through the percolator, to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents about 3½ grains of Asarum.

353. SYRUPUS COFFEÆ.

Syrup of Coffee.

Coffee, roasted	8 troy ounces.
Sugar	24 " "
Water	a sufficient quantity.

Introduce the Coffee, reduced to a moderately coarse powder, into a suitable vessel; pour upon it *sixteen* (16) *fluidounces* of boiling Water, then cover it well, and boil for five minutes. Allow it to become cold, keeping the vessel well covered; strain off the liquid and pass enough Water through the strainer to make the strained liquid, when cold, measure *sixteen* (16) *fluidounces*. In this dissolve the Sugar, by agitation, without heat, and strain through muslin.

Note.—It is recommended that a mixture of equal parts of the commercial varieties of Coffee, known as "Java" and "Mocha," be employed for this purpose. The coffee may also be exhausted by percolation, but special arrangements are then necessary to maintain the menstruum at the proper temperature.

354. SYRUPUS CALCII CHLORHYDROPHOSPHATIS.

Syrup of Chlorhydrophosphate of Calcium.

Syrup of Chlorhydrophosphate of Lime.

Precipitated Phosphate of Calcium	128 grains.
Hydrochloric Acid,	
Water, each	a sufficient quantity.
Spirit of Lemon	140 minims.
Syrup	enough to make 16 fluidounces.

Triturate the Precipitated Phosphate of Calcium with *one* (1) *fluidounce* of Water, and dissolve it with the aid of Hydrochloric Acid, avoiding an excess. Then add the Spirit of Lemon, filter the liquid, and wash the filter with a mixture of *one* (1) *fluidounce*, each, of Water and of Syrup. Lastly, add enough Syrup to the filtrate, to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains 1 grain of Phosphate of Calcium.

355. SYRUPUS CALCII ET SODII HYPOPHOSPHITUM.

Syrup of Hypophosphite of Calcium and Sodium.

Syrup of Hypophosphite of Lime and Soda.

Hypophosphite of Calcium	256 grains.
Hypophosphite of Sodium	256 "
Citric Acid	10 "
Sugar	12 troy ounces.
Water	enough to make 16 fluidounces.

Dissolve the two Hypophosphites and the Citric Acid in *eight* (8) *fluidounces* of Water, filter the solution, add the Sugar to the filtrate, and pass enough Water through the filter to make the product, after the Sugar has been dissolved by agitation, measure *sixteen* (16) *fluidounces*.

Each fluidrachm contains 2 grains, each, of Hypophosphite of Calcium and Hypophosphite of Sodium.

356. SYRUPUS CALCII HYPOPHOSPHITIS.

Syrup of Hypophosphite of Calcium.

Syrup of Hypophosphite of Lime.

Hypophosphite of Calcium	256 grains.
Citric Acid	10 "
Sugar	12 troy ounces.
Water	enough to make 16 fluidounces.

Dissolve the Hypophosphite of Calcium and the Citric Acid in *eight* (8) *fluidounces* of Water, filter the solution, add the Sugar to the filtrate, and pass enough Water through the filter to make the product, after the Sugar has been dissolved by agitation, measure *sixteen* (16) *fluidounces*.

Each fluidrachm contains 2 grains of Hypophosphite of Calcium.

357. SYRUPUS CALCII IODIDI.

Syrup of Iodide of Calcium.

Iodine	552 grains.
Iron Wire, fine, bright, and finely cut	200 "
Precipitated Carbonate of Calcium	250 "
Distilled Water	a sufficient quantity.
Sugar	11 troy ounces.
Syrup	enough to make 16 fluidounces.

Mix the Iron Wire with *four hundred and fourteen* (414) *grains* of the Iodine and *three* (3) *fluidounces* of Distilled Water, and apply a gentle heat, until the Iodine is combined, and the liquid has acquired a greenish color. Filter the liquid through a small filter into a flask containing the remainder of the Iodine, wash the filter with *one* (1) *fluidounce* of Distilled Water, and heat the solution gently, taking care that no iodine is lost by evaporation. Heat *four* (4) *fluidounces* of Distilled Water in a capacious capsule to boiling, and add to it small alternate portions, first of the Precipitated Carbonate of Calcium, and then of the solution of Iodide of Iron, in small portions at a time, stirring briskly and waiting until the violence of the reaction moderates before adding a fresh portion. From time to time, add a little Distilled Water, to replace that lost by evaporation. When all the Iron solution has been added, continue heating the mixture until it is quietly boiling, then filter it through a wetted filter, and wash the latter with enough Distilled Water to make the product, when cold, measure *eight* (8) *fluidounces*. In this dissolve the Sugar by agitation, then make up the volume with Syrup to *sixteen* (16) *fluidounces*, and strain, if necessary.

Each fluidrachm contains about 5 grains of Iodide of Calcium.

358. SYRUPUS CALCII LACTOPHOSPHATIS CUM FERRO.

Syrup of Lactophosphate of Calcium with Iron.

Syrup of Lactophosphate of Lime with Iron.

Lactate of Iron	64 grains.
Citrate of Potassium	64 "
Water	1 fluidounce.
Syrup of Lactophosphate of Calcium (U. S. P.), enough to make	16 fluidounces.

Dissolve the Lactate of Iron and Citrate of Potassium in the Water with the aid of heat, and add enough Syrup of Lactophosphate of Calcium to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains ½ grain of Lactate of Iron and about ¼ grain of Lactate of Calcium (or about ⅜ grain of so-called Lactophosphate of Calcium).

359. SYRUPUS CHONDRI COMPOSITUS.

Compound Syrup of Chondrus.

Compound Syrup of Irish Moss.

Irish Moss	8 grains.
Fluid Extract of Ipecac	8 minims.
Fluid Extract of Squill	120 "
Fluid Extract of Senega	120 "
Camphorated Tincture of Opium	210 "
Purified Talcum	120 grains.
Sugar	10 troy ounces.
Water	enough to make 16 fluidounces.

Macerate the Irish Moss in *one* (1) *fluidounce* of Water until it is softened, then heat it on a boiling water-bath for fifteen minutes, strain it through flannel, without pressure, and wash the flannel and contents with *one* (1) *fluidounce* of hot Water. Mix the Fluid Extracts and Tincture with the Purified Talcum and *five* (5) *fluidounces* of Water, shake the mixture frequently and thoroughly during half an hour, and then filter it through a wetted filter, returning the first portions of the filtrate until it runs through clear. Mix the mucilage of Irish Moss with the filtrate, then add the Sugar, and pass enough Water through the filter, to make the product, after the Sugar has been dissolved by agitation, measure *sixteen* (16) *fluidounces.*

360. SYRUPUS CINNAMOMI.

Syrup of Cinnamon.

Cinnamon (Cassia), in moderately coarse powder	1½ troy ounces.
Alcohol	360 minims.
Sugar	11 troy ounces.
Cinnamon Water	enough to make 16 fluidounces.

Mix the Alcohol with *seven* (7) *fluidounces* of Cinnamon Water, moisten the Cinnamon with a sufficient quantity of this menstruum and allow it to macerate for about two hours. Then transfer it to a small percolator, and percolate, in the usual manner, using first the remainder of the menstruum above directed, and afterwards, Cinnamon Water. Collect the first *eight* (8) *fluidounces* of the percolate separately, and dissolve in it the Sugar. Then collect an additional quantity of percolate and add it to the Syrup, so as to make *sixteen* (16) *fluidounces.*

Note.—This preparation is practically identical with that officinal in the Germ. Pharm.

361. SYRUPUS ERIODICTYI AROMATICUS.

Aromatic Syrup of Eriodictyon.

Aromatic Syrup of Yerba Santa. Syrupus Corrigens.

Fluid Extract of Eriodictyon	½ fluidounce.
Solution of Potassa	180 minims.
Compound Tincture of Cardamom	1 fluidounce.
Oil of Sassafras	4 drops.
Oil of Lemon	4 "
Oil of Cloves	8 "
Alcohol	½ fluidounce.
Sugar	13 troy ounces.
Water	enough to make 16 fluidounces.

Mix the Fluid Extract of Eriodictyon and Solution of Potassa, then add *one and one-half* (1½) *fluidounces* of Water previously mixed with the Compound Tincture of Cardamom, and afterwards add the Oils dissolved in the Alcohol. Shake the mixture thoroughly, then filter it, and pour enough Water through the filter to obtain *six* (6) *fluidounces* of filtrate. Pour this upon the Sugar contained in a bottle, and dissolve it by placing the bottle in hot water, frequently agitating. Lastly, cool the product and add enough Water, passed through the filter previously used, to make *sixteen* (16) *fluidounces*.

Note.—This preparation is chiefly intended as a vehicle, for disguising the taste of quinine or of other bitter substances. (Compare No. 54).

362. SYRUPUS FERRI ARSENIATIS.

Syrup of Arseniate of Iron.

Arseniate of Sodium (U. S. P.), dried to a constant weight at a heat not exceeding 149° C. (300° F.)	3 grains.
Citrate of Iron (U. S. P.)	2½ "
Water	½ fluidounce.
Syrup	enough to make 16 fluidounces.

Dissolve the Arseniate of Sodium and Citrate of Iron in the Water, contained in a test-tube, by the aid of heat. Then mix the solution with enough Syrup to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains about $\frac{1}{60}$ *grain of Arseniate of Iron (ferric).*

Note.—Care should be taken to select perfectly formed crystals of Arseniate of Sodium, which must then be dried completely at 100° C. (212° F.), and the 3 grains required for the above formula must be weighed from the *dried* salt. It is advisable to dry a fresh quantity of the salt each time the above Syrup is to be prepared.

363. SYRUPUS FERRI CITRO-IODIDI.

Syrup of Citro-Iodide of Iron.

Tasteless Syrup of Iodide of Iron.

Iodine	400 grains.
Iron Wire, fine, bright, and finely cut	200 "
Citrate of Potassium	620 "
Sugar	10 troy ounces.
Distilled Water	enough to make 16 fluidounces.

Mix the Iron with *four* (4) *fluidounces* of Distilled Water in a flask, add *two hundred and sixty-seven* (267) *grains* of the Iodine, and apply a gentle heat until the Iodine is combined and the solution has acquired a greenish color. Then heat the contents of the flask to boiling, filter the liquid, and wash the filter with *one-half* (½) *fluidounce* of hot Distilled Water. To the hot filtrate add the Citrate of Potassium, and afterwards the remainder of the Iodine, and agitate until the liquid has assumed a greenish color. Pour this upon the Sugar contained in a bottle, agitate until solution has been effected, and when the liquid is cold, add enough Distilled Water to make *sixteen* (16) *fluidounces.*

Each fluidrachm contains an amount of Iron, corresponding to about 3.6 grains of Ferric Iodide.

Note.—The officinal *Syrupus Ferri Iodidi* contains about 8 grains of *ferrous iodide* (protiodide of iron) in each fluidrachm. The above preparation contains the iron in the *ferric* condition.

364. SYRUPUS FERRI ET MANGANI IODIDI.

Syrup of Iodide of Iron and Manganese.

Iodine	595 grains.
Iron Wire, fine, bright, and finely cut	192 "
Sulphate of Manganese	192 "
Iodide of Potassium	230 "
Sugar	12 troy ounces.
Distilled Water	enough to make 16 fluidounces.

Mix the Iron with *four* (4) *fluidounces* of Distilled Water in a flask, add the Iodine, and prepare a solution of ferrous iodide, in the usual manner, aiding the process, if necessary, by heating the contents of the flask, at first gently, and finally to boiling. Filter the liquid, through a small filter, directly upon the Sugar, contained in a suitable bottle. Dissolve the Sulphate of Manganese in *two* (2) *fluidounces* of Distilled Water, and the Iodide of Potassium in *two* (2) *fluidounces* of Diluted Alcohol, mix the two solutions and filter into the same bottle which contains the Sugar and the Iron solution. Wash the filter with *one-half* (½) *fluidounce* of cold Distilled Water,

receiving the washings in the same bottle. Agitate until the Sugar is dissolved, and, if necessary, strain. Finally, make up the volume with Distilled Water to *sixteen* (16) *fluidounces*.

Each fluidrachm contains about 6 grains of Iodide of Iron (ferrous) and 3 grains of Iodide of Manganese.

365. SYRUPUS FERRI HYPOPHOSPHITIS.

Syrup of Hypophosphite of Iron.

Hypophosphite of Iron		128 grains.
Citrate of Potassium		160 "
Orange Flower Water		1 fluidounce.
Syrup	enough to make	16 fluidounces.

Dissolve the Hypophosphite of Iron, with the aid of the Citrate of Potassium, in the Orange Flower Water, and add enough Syrup to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains 1 grain of Hypophosphite of Iron (ferric).

366. SYRUPUS FERRI LACTOPHOSPHATIS.

Syrup of Lactophosphate of Iron.

Lactate of Iron		128 grains.
Phosphoric Acid (50%)		a sufficient quantity.
Water		½ fluidounce.
Syrup	enough to make	16 fluidounces.

Dissolve the Lactate of Iron in the Water with the aid of a sufficient quantity of Phosphoric Acid, avoiding an excess, and add enough Syrup to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains 1 grain of Lactate of Iron, or about 1½ grains of so-called Lactophosphate of Iron.

367. SYRUPUS FERRI PROTOCHLORIDI.

Syrup of Protochloride of Iron.

Syrup of Ferrous Chloride.

Solution of Protochloride of Iron		384 minims.
Glycerin		2 fluidounces.
Orange Flower Water		2 "
Syrup	enough to make	16 "

Mix the Solution of Protochloride of Iron with the Glycerin and Orange Flower Water, and add enough Syrup to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains about 1 grain of Protochloride of Iron (ferrous chloride).

368. SYRUPUS FERRI SACCHARATI SOLUBILIS.

Syrup of Soluble Saccharated Iron.

Syrupus Ferri Oxydati Solubilis (Germ. Pharm.). *Syrup of Saccharated Oxide of Iron. Syrup of Soluble Oxide of Iron.*

1. Solution of Chloride of Iron (U. S. P.)	8 parts.
Soda,	
Distilled Water, each	a sufficient quantity.
Sugar	30 parts.
Syrup	enough to make 100 "

Prepare a sufficient quantity of a solution of Soda, of the specific gravity 1.160; gradually add, under stirring, *twenty-three* (23) *parts* of this to the Solution of Chloride of Iron previously mixed with *seven* (7) *parts* of Syrup, and set the mixture aside, during twenty-four hours, in a dark place. Then pour the clear liquid slowly into *one hundred and sixty* (160) *parts* of boiling Distilled Water, continue the boiling for a few minutes, and then set the mixture aside during one day, in a dark place, so that it may become clear by settling. Withdraw the supernatant liquid by means of a siphon, then wash the residue again with *one hundred and sixty* (160) *parts* of boiling Distilled Water, by decantation. Transfer the magma to a wetted strainer, and wash it with hot Distilled Water, until this runs off colorless, but so that the mass on the strainer still retains a moderately strong alkaline reaction. Then allow the excess of liquid to drain off, transfer the moist magma to a tared porcelain capsule, add the Sugar, and heat it on a water-bath, with exclusion of daylight, during two hours, replacing from time to time any Water lost by evaporation. Lastly, add enough Syrup to make the product weigh *one hundred* (100) *parts*, and transfer the product to bottles, which should be completely filled, and stored in a cool and dark place.

One hundred grains, or about 75 minims, of this Syrup represent approximately 1 grain of metallic Iron.

Note.—The above process is based upon that of the Germ. Pharm. (1st edition). The formula given by the second edition of this work presupposes the keeping in stock of a dry "Ferrum Oxydatum Saccharatum Solubile" (Saccharated Oxide of Iron), representing 3 per cent. of metallic iron. When this is available, the *Syrup of Soluble Saccharated Iron* may also be prepared by the following formula:

2. Saccharated Oxide of Iron,	
Syrup,	
Water, each	equal parts.

Dissolve the Saccharated Oxide of Iron in the mixed liquids.

369. SYRUPUS GLYCYRRHIZÆ.

Syrup of Glycyrrhiza.

Syrup of Liquorice.

Pure Extract of Glycyrrhiza (U. S. P.)	2 troy ounces.
Glycerin	2 " "
Sugar	10 " "
Water	enough to make 16 fluidounces.

Dissolve the Pure Extract of Glycyrrhiza in *eight* (8) *fluidounces* of Water, add the Sugar, dissolve it by agitation, and strain. Then add the Glycerin, and lastly, enough Water to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents about 30 grains of Glycyrrhiza.

370. SYRUPUS HYPOPHOSPHITUM COMPOSITUS.

Compound Syrup of Hypophosphites.

Compound Hypophosphites.

Hypophosphite of Calcium	256 grains.
Hypophosphite of Potassium	128 "
Hypophosphite of Sodium	128 "
Hypophosphite of Iron	16 "
Hypophosphite of Manganese	16 "
Citrate of Potassium	40 "
Citric Acid	15 "
Hydrochlorate of Quinine	8 "
Tincture of Nux Vomica (U. S. P.)	160 minims.
Sugar	12 troy ounces.
Water	enough to make 16 fluidounces.

Rub the Hypophosphites of Iron and of Manganese with the Citrate of Potassium and Citric Acid to powder, add *one* (1) *fluidounce* of Water, and warm the mixture a few minutes until a clear greenish solution is obtained. Introduce the other Hypophosphites and the Hydrochlorate of Quinine, previously triturated together, into a graduated bottle, next add the Sugar, the Iron and Manganese solution first prepared, the Tincture of Nux Vomica, and lastly, enough Water to make up the volume, as soon as the Sugar is saturated by the liquid, to *sixteen* (16) *fluidounces*. Agitate, until solution has been effected, and strain, if necessary.

Each fluidrachm contains 2 grains of Hypophosphite of Calcium, 1 grain, each, of the Hypophosphites of Potassium and Sodium, ⅛ grain, each, of the Hypophosphites of Iron and of Manganese, $\frac{1}{16}$ grain of Hydrochlorate of Quinine, and 1¼ minims of Tincture of Nux Vomica.

Note—This Syrup should not be confounded with the officinal *Syrupus Hypophosphitum* (Syrup of the Hypophosphites).

371. SYRUPUS IPECACUANHÆ ET OPII.

Syrup of Ipecac and Opium.

Syrup of Dover's Powder.

Fluid Extract of Ipecac	64 minims.
Deodorized Tincture of Opium (U. S. P.)	670 "
Sugar	12 troy ounces.
Cinnamon Water	enough to make 16 fluidounces.

Mix the Fluid Extract and Tincture with *six* (6) *fluidounces* of Cinnamon Water, and filter the liquid; to this add the Sugar, and enough Cinnamon Water to make the product, after the Sugar has been dissolved by agitation, measure *sixteen* (16) *fluidounces.*

Each fluidrachm represents 5 grains of Dover's Powder, or ½ grain, each, of Ipecac and Opium.

Note.—In place of the above directed quantities of Fluid Extract of Ipecac and Deodorized Tincture of Opium, 640 minims of the officinal *Tinctura Ipecacuanhæ et Opii* may be taken.

372. SYRUPUS MANNÆ.

Syrup of Manna.

Manna, in flakes	2 troy ounces.
Sugar	12 " "
Alcohol	1 fluidounce.
Water	enough to make 16 fluidounces.

Dissolve the Manna in *seven* (7) *fluidounces* of hot Water, add the Alcohol, set the liquid aside for twelve hours in a moderately warm place, and filter. Dissolve the Sugar in the filtrate, with the aid of a gentle heat, allow the Syrup to cool, and add enough Water, passed through the filter previously used, to make *sixteen* (16) *fluidounces.*

Note.—The product is approximately of the same strength as that which is officinal in the Germ. Pharm.

373. SYRUPUS MORPHINÆ COMPOSITUS.

Compound Syrup of Morphine.

Fluid Extract of Ipecac	15 minims.
Fluid Extract of Senega	1½ fluidounces.
Fluid Extract of Rhubarb	120 minims.
Sulphate of Morphine	4 grains.
Oil of Sassafras	8 minims.
Syrup	enough to make 16 fluidounces.

Dissolve the Sulphate of Morphine in about *one* (1) *fluidounce* of Syrup, then add the Fluid Extracts and the Oil of Sassafras, and lastly, enough Syrup to make *sixteen* (16) *fluidounces.* Mix the whole thoroughly by shaking.

Note.—In some sections of the country, this preparation is dispensed, when

Pectoral Syrup or Jackson's Cough Syrup is demanded or ordered. As the formula differs too much from that originally used by Dr. Jackson (see Note to No. 376), it is recommended that the above preparation be dispensed only when it is designated by the title above given.

374. SYRUPUS MORPHINÆ SULPHATIS.

Syrup of Sulphate of Morphine.

Syrupus Morphinæ. Syrup of Morphine.

1. Sulphate of Morphine . . . . . 16 grains.
   Water . . . . . ½ fluidounce.
   Syrup . . . . . enough to make 16 fluidounces.

Dissolve the Sulphate of Morphine in the hot Water, and add enough Syrup to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains ⅛ grain of Sulphate of Morphine.

Note.—This preparation is in considerable use in the Southern States. It should, however, never be dispensed in prescriptions, unless it is known to be the preparation intended, or unless it is designated as that of the National Formulary (N. F.).

When *Syrup of Morphine* is prescribed without any such specific designation or knowledge, it is recommended that the corresponding, but weaker preparation of the French Pharm. be dispensed. The officinal title of this is *Sirop de Chlorhydrate de Morphine* (or *Sirop de Morphine*).

This may be prepared approximately of the strength required by the Codex, as follows:

2. Hydrochlorate of Morphine . . . . . 5 grains.
   Water . . . . . ½ fluidounce.
   Syrup . . . . . enough to make 16 fluidounces.

Dissolve the Hydrochlorate of Morphine in the Water, and add enough Syrup to make *sixteen* (16) *fluidounces*.

Each fluidrachm contains about $\frac{1}{15}$ grain of Hydrochlorate of Morphine.

375. SYRUPUS PAPAVERIS.

Syrup of Poppy.

1. Tincture of Poppy (N. F.) . . . . . 14 fluidounces.
   Sugar . . . . . 12 troy ounces.
   Water . . . . . enough to make 16 fluidounces.

Evaporate the Tincture of Poppy, on a water-bath, at a gentle heat, until its volume is reduced to *seven* (7) *fluidounces*. In this dissolve the Sugar with a gentle heat, strain, and when the Syrup is cold, add enough Water to make *sixteen* (16) *fluidounces*.

Note.—The product is practically identical with the *Syrupus Papaveris* of the Brit. Pharm. The corresponding preparation of the Germ. Pharm. (*Syrupus Papaveris*, or *Syrupus Diacodii*) is much weaker, and may be prepared as follows:

2. Tincture of Poppy (N. F.) . . . . . 2 fluidounces.
   Syrup . . . . . 14 "

Mix them.

376. SYRUPUS PECTORALIS.

Pectoral Syrup.

Jackson's Pectoral (or *Cough*) *Syrup.*

Hydrochlorate of Morphine	4 grains.
Oil of Sassafras	4 minims.
Syrup of Acacia	enough to make 16 fluidounces.

Dissolve the Hydrochlorate of Morphine in about *one* (1) *fluidounce* of the Syrup, add the Oil of Sassafras, and enough Syrup to make *sixteen* (16) *fluidounces.*

Each fluidrachm contains $\frac{1}{32}$ *grain of Hydrochlorate of Morphine.*

Note.—The original formula of Dr. Samuel Jackson's Cough Syrup was as follows: Sassafras Pith, 60 grains; Acacia, 1 ounce; Sugar, 28 av. ounces; Muriate of Morphine, 8 grains; Water, enough to make 32 fluidounces. The Sassafras Pith was afterwards uniformly replaced by Oil of Sassafras, and the other constituents of the Syrup have been more or less altered, so that a number of different formulæ are in vogue in different sections of the country. It is recommended that the above be followed, if possible, for the sake of uniformity. (See Note to No. 373).

377. SYRUPUS PHOSPHATUM COMPOSITUS.

Compound Syrup of the Phosphates.

Chemical Food.

Precipitated Carbonate of Calcium	256 grains.
Phosphate of Iron (U. S. P. 1880)	128 "
Phosphate of Ammonium	128 "
Bicarbonate of Potassium	32 "
Bicarbonate of Sodium	32 "
Citric Acid	1 troy ounce.
Glycerin	1 fluidounce.
Phosphoric Acid (50%)	2 fluidounces.
Orange Flower Water	2 "
Tincture of Cudbear (N. F.)	120 minims.
Sugar	8 troy ounces.
Water	enough to make 16 fluidounces.

Triturate the Precipitated Carbonate of Calcium with the Bicarbonate of Potassium and Sodium, the Citric Acid, Glycerin, and Orange Flower Water, and gradually add the Phosphoric Acid, stirring until solution has been effected. Dissolve the Phosphate of Iron and the Phosphate of Ammonium in *four* (4) *fluidounces* of hot Water, cool, and add the solution to that previously prepared. Filter the whole through a pellet of absorbent cotton placed in the neck of a funnel, and receive the filtrate in a graduated bottle containing the Sugar. Agitate until the latter is dissolved, then add the Tincture of Cudbear, and lastly, enough Water to make *sixteen* (16) *fluidounces.*

Each fluidrachm contains about 2 grains of Phosphate of Calcium, 1 grain, each, of the Phosphates of Iron and of Ammonium, and smaller quantities of the Phosphates of Potassium and Sodium.

378. SYRUPUS RHAMNI CATHARTICÆ.

Syrup of Rhamnus Cathartica.

Syrup of Buckthorn Berries. Syrupus Spinæ Cervinæ.

Sugar	13 troy ounces.
Fermented Juice of Buckthorn Berries,	enough to make 16 fluidounces.

Dissolve the Sugar in *seven* (7) *fluidounces* of the Juice, with the aid of a gentle heat, allow the Syrup to cool, then add enough of the Juice to make *sixteen* (16) *fluidounces*, and strain, if necessary.

Note.—This preparation is practically identical with that officinal in the *Germ. Pharm.* The species of Buckthorn to be used is the *Rhamnus cathartica* Linné, native of Europe, and naturalized, to some extent, in the U. S. If the fresh berries cannot be obtained, the imported fermented juice may be used in preparing the Syrup.

379. SYRUPUS RUBI AROMATICUS.

Aromatic Syrup of Blackberry.

Rubus (U. S. P.)	2 troy ounces.
Cinnamon	120 grains.
Nutmeg	120 "
Cloves	60 "
Allspice	60 "
Diluted Alcohol	a sufficient quantity.
Sugar	10 troy ounces.
Blackberry Juice	a sufficient quantity.

Reduce the Rubus (Blackberry Root) and the Aromatics to a moderately coarse (No. 40) powder, and percolate it, in the usual manner, with the Diluted Alcohol, until *four* (4) *fluidounces* of percolate are obtained. To this add *seven* (7) *fluidounces* of Blackberry Juice, and dissolve the Sugar in the liquid by agitation. Lastly, add enough Blackberry Juice to make *sixteen* (16) *fluidounces*.

380. SYRUPUS SANGUINARIÆ.

Syrup of Sanguinaria.

Syrup of Bloodroot.

Sanguinaria, in No. 20 powder	3½ troy ounces.
Acetic Acid	2 fluidounces.
Sugar	13 troy ounces.
Water	enough to make 16 fluidounces.

Mix the Acetic Acid with *six* (6) *fluidounces* of Water, moisten the Sanguinaria with a sufficient quantity of this menstruum, and allow it to macerate for two hours. Then pack it in a glass percolator,

and percolate in the usual manner, first with the remainder of the menstruum previously prepared, and afterwards with Water until *twelve* (12) *fluidounces* of percolate are obtained, or until the Sanguinaria is practically exhausted. Evaporate the percolate, at a moderate heat, to *seven* (7) *fluidounces*. In this dissolve the Sugar with a gentle heat, if necessary, and add enough Water to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents about 13 grains of Sanguinaria.

381. SYRUPUS SENNÆ AROMATICUS.

Aromatic Syrup of Senna.

Senna	2 troy ounces.
Jalap	384 grains.
Rhubarb	128 "
Cinnamon	30 "
Cloves	30 "
Nutmeg	15 "
Oil of Lemon	10 minims.
Sugar	12 troy ounces.
Diluted Alcohol	enough to make 16 fluidounces.

Reduce the drugs to a moderately fine (No. 50) powder, add to it the Oil of Lemon, and percolate it, in the usual manner, with Diluted Alcohol. Remove the first *eight* (8) *fluidounces* of the percolate, and dissolve in this the Sugar, with the aid of a gentle heat, if necessary, but avoiding loss of alcohol by evaporation. Allow the solution to cool, collect a further portion of percolate, and add it to the Syrup, so as to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents 7½ grains of Senna, 3 grains of Jalap, and 1 grain of Rhubarb, with aromatics.

382. SYRUPUS SENNÆ COMPOSITUS.

Compound Syrup of Senna.

Fluid Extract of Senna	1024 minims.
Fluid Extract of Rhubarb	256 "
Fluid Extract of Frangula	256 "
Oil of Gaultheria	30 "
Alcohol	1 fluidounce.
Syrup	enough to make 16 fluidounces.

Dissolve the Oil of Gaultheria in the Alcohol, and add this to the mixed Fluid Extracts. Then add enough Syrup to make *sixteen* (16) *fluidounces*, and mix by agitation.

Each fluidrachm represents 8 grains of Senna, 2 grains of Rhubarb, and 2 grains of Frangula.

383. SYRUPUS SODII HYPOPHOSPHITIS.

Syrup of Hypophosphite of Sodium.

Hypophosphite of Sodium	256 grains.
Citric Acid	10 "
Sugar	12 troy ounces.
Water	enough to make 16 fluidounces.

Dissolve the Hypophosphite of Sodium and the Citric Acid in *eight* (8) *fluidounces* of Water, and filter the solution. In this dissolve the Sugar by agitation, and pass enough Water through the filter, to make the product measure *sixteen* (16) *fluidounces*.

Each fluidrachm contains 2 grains of Hypophosphite of Sodium.

384. SYRUPUS STILLINGIÆ COMPOSITUS.

Compound Syrup of Stillingia.

Compound Fluid Extract of Stillingia (N. F.)	4 fluidounces.
Purified Talcum	120 grains.
Sugar	11 troy ounces.
Water	enough to make 16 fluidounces.

Mix the Compound Fluid Extract of Stillingia with the Purified Talcum, and afterwards with *four and one-half* (4½) *fluidounces* of Water, and shake them together thoroughly. Then pour the mixture upon a wetted filter, add the Sugar to the filtrate, and pass enough Water through the filter to make the product, after the Sugar has been dissolved by agitation, measure *sixteen* (16) *fluidounces*.

Each fluidrachm represents 15 minims of Compound Fluid Extract of Stillingia (see No. 170).

385. TALCUM PURIFICATUM.

Purified Talcum.

Talcum, in fine powder	100 parts.
Hydrochloric Acid	15 "
Water	a sufficient quantity.

Mix *five hundred* (500) *parts* of boiling Water with the Talcum, gradually add *ten* (10) *parts* of the Hydrochloric Acid, and boil the mixture during fifteen minutes. Then allow the suspended Talcum to subside, pour off the supernatant liquid, and boil the residue again with *five hundred* (500) *parts* of Water mixed with the remainder of the Hydrochloric Acid. Again allow the mixture to become clear by settling, pour off the supernatant liquid, and wash the residue with Water, by repeated decantation, until a portion of the wash-water, filtered and placed in a test-tube, ceases to produce a precipitate with test-solution of nitrate of silver acidified with nitric acid. Then transfer the magma to a close linen or muslin strainer, allow it to drain, and dry it by heat.

Note.—Purified Talcum is used as an aid in filtering turbid liquids contain-

ing finely-divided matters in suspension, which are apt to pass through the filter, or to stop up its pores.

386. TINCTURÆ.

Tinctures.

General Process.—All Tinctures, for which no working formula is provided by the U. S. Pharmacopœia, the National Formulary, or some other work of authority, and the strength of which is not otherwise specified by the prescriber, should be prepared in the following proportions:

The Drug, properly comminuted . . . . . 2 troy ounces.
The Menstruum . . . . . enough to make 16 fluidounces.

Note.—The choice of the menstruum will depend upon the nature of the drug, and in some cases upon the uses to which the Tincture is to be applied. In general, it may be stated that, if the useful constituents are soluble in alcohol, and but slightly, or not at all soluble in water, strong alcohol should be used as a menstruum. Whenever it is possible, and consistent with the intended use of the preparation, the alcoholic strength of the menstruum should be made to approach that of Diluted Alcohol, the object being not only to exhaust the Drug of all its useful constituents, but also to retain them in solution.

If the drug is fibrous and can be dried and powdered without injury or loss of useful constituents, percolation is preferable. If the drug is resinous and partly, or almost wholly soluble in the menstruum, or if it is fibrous, and cannot well be powdered without undergoing injury, maceration should be resorted to. In the latter case, the drug, comminuted as much as possible, should be kept in contact with the full quantity of the menstruum for two weeks, or until the soluble matters are extracted, the liquid portion strained off, and the remainder of the tincture contained in the residue on the strainer carefully displaced by washing with a fresh portion of the menstruum until 16 fluidounces of tincture are obtained for every 2 troy ounces of drug used in the operation.

The preparation of Tinctures from Fluid Extracts, instead of from the original drugs themselves, is not recommended. In some special cases, however, when the crude drug is not accessible, or when a tincture, which is not at hand and otherwise unobtainable, is required for immediate use, it may be prepared, extemporaneously, from the corresponding fluid extract, provided that the latter is known to fully represent the active constituents of the drug which are intended to be contained in the tincture (see formulas 387, 411, 412).

387. TINCTURA ACONITI, FLEMING.

Fleming's Tincture of Aconite.

1. **Aconite** (root), in fine powder . . . . . 10 troy ounces.
Alcohol . . . . . enough to make 15 fluidounces.

Moisten the Aconite with enough Alcohol to render it distinctly damp and to maintain it so after twenty-four hours' maceration in a well covered vessel. Then pack it tightly in a percolator, and percolate it slowly, in the usual manner, with Alcohol, until *fifteen* (15) *fluidounces* of tincture are obtained.

Note.—This preparation is still prescribed by many physicians. It is recom-

mended that their attention be directed to the officinal Fluid Extract and Tincture of Aconite, so that the above preparation may be gradually abandoned.

When this preparation is required for immediate use, and it is not otherwise available, it may be prepared in the following manner (see Note to No. 386):

2. Fluid Extract of Aconite	10	fluidounces.
Alcohol	5	"

Mix them.

388. TINCTURA AMARA.

Bitter Tincture.

Stomachic Tincture. *Bitter Stomachic Drops.* *Stomach Drops.*		
Gentian	384	grains.
Centaury, herb	384	"
Bitter Orange Peel	256	"
Orange Berries	128	"
Zedoary, root	128	"
Alcohol, Water, each	enough to make 16	fluidounces.

Reduce the drugs to a moderately coarse (No. 40) powder, and percolate it, in the usual manner, with a mixture of *two* (2) *volumes* of Alcohol and *one* (1) *volume* of Water, until *sixteen* (16) *fluidounces* of percolate are obtained.

Note.—Centaury is the herb of *Erythræa Centaurium* Persoon. Orange Berries are the unripe fruit of *Citrus vulgaris* Risso, collected while small. Zedoary is the rhizome of *Curcuma Zedoaria* Roscoe. The product obtained by the above formula is practically identical with that which is officinal in the Germ. Pharm.

389. TINCTURA ANTACRIDA.

Antacrid Tincture.

Dysmenorrhœa Mixture. *Fenner's Guaiac Mixture.*		
Corrosive Chloride of Mercury	40	grains.
Resin of Guaiac, in fine powder	2	troy ounces.
Canada Turpentine	2	" "
Oil of Sassafras	½	fluidounce.
Alcohol	enough to make 16	fluidounces.

Introduce the Resin of Guaiac and the Canada Turpentine into a flask, together with *twelve* (12) *fluidounces* of Alcohol, cork the flask loosely, and heat the contents, on a water-bath, slowly to boiling. Then cool the flask, and filter the contents through a small filter. Dissolve the Corrosive Chloride of Mercury in *one-half* (½) *fluidounce* of Alcohol, and add this solution, as well as the Oil of Sassafras, to the filtrate. Lastly, pass enough Alcohol through the filter to make the product measure *sixteen* (16) *fluidounces.*

Each fluidrachm contains nearly ⅓ grain of Corrosive Chloride of Mercury.

Note.—The dose of this preparation is about 10 to 20 minims.

390. TINCTURA ANTIPERIODICA.

Antiperiodic Tincture.

Warburg's Tincture.

1. *Without Aloes.*

Rhubarb	448 grains.
Angelica, seed	448 "
Elecampane	224 "
Saffron	224 "
Fennel	224 "
Gentian	112 "
Zedoary, root	112 "
Cubeb	112 "
Myrrh	112 "
White Agaric	112 "
Camphor	112 "
Sulphate of Quinine	1280 "
Diluted Alcohol	enough to make 8 pints.

Reduce the fibrous vegetable drugs to a coarse (No. 20) powder, mix this with the Myrrh and Camphor, previously powdered, and digest the whole, during twelve hours, in a suitable, well-covered vessel, with *seven* (7) *pints* of Diluted Alcohol, on a water-bath, avoiding, as much as possible, any loss of Alcohol by evaporation. Then strain off the liquid with pressure, dissolve the Sulphate of Quinine in the strained liquid, with a gentle heat, if necessary, filter, and pass enough Diluted Alcohol, first through the strainer and then through the filter, to make the product measure *eight* (8) *pints*.

Each fluidounce contains 10 grains of Sulphate of Quinine.

Note.—This preparation, made *without Aloes*, is intended to serve as a stock-tincture, from which the regular "Warburg's Tincture" is to be made, when required. "Warburg's Tincture without Aloes" is also often prescribed or asked for, and in this case, the above preparation is to be dispensed.

The original formula directed by Dr. Warburg contained the old *Confectio Damocratis* as one of the ingredients. This is a very complex preparation, many of the constituents of which are unobtainable at the present day. It has, therefore, been omitted.

2. *With Aloes.*

Aqueous Extract of Aloes	28 grains.
Antiperiodic Tincture, without Aloes	16 fluidounces.

Dissolve the Extract in the Tincture.

Note.—When "Warburg's Tincture," without any further specification, is ordered, this preparation (containing Aloes) is to be dispensed.

391. TINCTURA AROMATICA.

Aromatic Tincture.

Cinnamon (Cassia)	650 grains.
Ginger	260 "
Galangal, root	130 "
Cloves	130 "
Cardamom	130 "
Alcohol,	
Water, each	enough to make 16 fluidounces.

Reduce the drugs to a moderately coarse (No. 40) powder, and percolate it, in the usual manner, with a mixture of *two* (2) *volumes* of Alcohol and *one* (1) *volume* of Water, until *sixteen* (16) *fluidounces* of percolate are obtained.

Note.—This preparation is practically identical with that which is officinal in the Germ. Pharm. Galangal is the root of *Alpinia officinarum* Hance.

392. TINCTURA CAPSICI ET MYRRHÆ.

Tincture of Capsicum and Myrrh.

Hot Drops.

Capsicum, in No. 20 powder	½ troy ounce.
Myrrh, in moderately coarse powder	2 troy ounces.
Alcohol,	
Water, each	enough to make 16 fluidounces.

Mix the powders with an equal bulk of clean, fine sand, and percolate them, in the usual manner, with a mixture of *nine* (9) *volumes* of Alcohol, and *one* (1) *volume* of Water, until *sixteen* (16) *fluidounces* of percolate are obtained.

Note.—This preparation is known in some parts of this country by the old Thompsonian name "Number six."

393. TINCTURA CINCHONÆ DETANNATA.

Detannated Tincture of Cinchona.

Fluid Extract of Cinchona (U. S. P.)	3 fluidounces.
Alcohol	8 "
Solution of Tersulphate of Iron	6 "
Water of Ammonia	6 "
Water,	
Diluted Alcohol, each	a sufficient quantity.

To the Water of Ammonia, diluted with *twenty-four* (24) *fluidounces* of Water, gradually add the Solution of Tersulphate of Iron, previously diluted with *forty* (40) *fluidounces* of Water, under constant stirring. Pour this mixture, containing Ferric Hydrate as a precipitate, upon a wet muslin strainer (which has been tared, after having been wetted and deprived of the excess of water by moderate pressure), and when the liquid has drained off, return the precipitate

to the vessel, and mix it intimately with about *sixty-four* (64) *fluidounces* of Water. Again drain it on the strainer, transfer it once more to the vessel, and treat it as before. Finally drain and press the precipitate on the strainer until it weighs *eight* (8) *troy ounces*.

Mix the Fluid Extract of Cinchona with *eight* (8) *fluidounces* of Alcohol, and add the Ferric Hydrate previously prepared. Agitate the mixture frequently, until the tincture is deprived of tannin, which may be known by the absence of a blackish-green color when a small portion of the clear tincture is treated with a drop or two of tincture of chloride of iron. Insert a plug of absorbent cotton into a suitable percolator, and introduce the mixture. As soon as the liquid has disappeared from the surface, pour on enough Diluted Alcohol to make the product measure *sixteen* (16) *fluidounces*.

Note.—This preparation is practically identical, in strength of Cinchona (without the tannin), with the officinal *Tinctura Cinchonæ*.

394. TINCTURA COTO.

Tincture of Coto.

Coto bark, bruised . . . . . 2 troy ounces.
Alcohol . . . . . enough to make 16 fluidounces.

Macerate the Coto with *fourteen* (14) *fluidounces* of Alcohol during seven days; then pour off the liquid, press the residue, and filter the united liquids through paper. Lastly, wash the residue transferred to the filter with enough Alcohol to make the product measure *sixteen* (16) *fluidounces*.

Note.—Coto bark is derived from an undetermined tree, probably belonging to the natural order Lauraceæ, and is obtained from Bolivia. There are two varieties known, one as "Coto," and the other as "Paracoto" bark. True Coto bark is, at times, difficult to obtain in the market, and the Paracoto bark is then frequently substituted for it. While they possess some useful properties in common, yet they differ materially in other respects. Hence, the Paracoto bark should not be substituted for the true Coto bark.

395. TINCTURÆ ÆTHEREÆ.

Ethereal Tinctures.

General Formula.

The Drug, properly comminuted . . . . . 2 troy ounces.
Alcohol,
Stronger Ether, each . . . . . enough to make 16 fluidounces.

Percolate the Drug in the usual manner, but with proper precautions to avoid loss of menstruum by evaporation, with a mixture of *one* (1) *volume* of Stronger Ether, and *two* (2) *volumes* of Alcohol, until *sixteen* (16) *fluidounces* of percolate are obtained.

Note.—This formula is to be used, when Ethereal Tinctures of Belladonna, Castor, Digitalis, Lobelia, Valerian, or of other drugs, are to be prepared.

396. TINCTURA FERRI CHLORIDI ÆTHEREA.

Ethereal Tincture of Chloride of Iron.

Bestucheff's Tincture. Lamotte's Drops.

Solution of Chloride of Iron (U. S. P.)	350 minims.
Stronger Ether	4 fluidounces.
Alcohol . . . . . enough to make	16 fluidounces.

Mix the Solution of Chloride of Iron with *ten* (10) *fluidounces* of Alcohol, add the Stronger Ether, and lastly, enough Alcohol to make *sixteen* (16) *fluidounces*. Introduce the Tincture into bottles made of white (flint) glass, which should not be entirely filled. Cork them tightly and expose them to the rays of the sun, until the Tincture has been completely decolorized. Then remove the bottles to a shady place, and open them occasionally, until the contents have again assumed a yellow color. Lastly, transfer the tincture to bottles which should be well stoppered and kept in a cool and dark place.

Each fluidrachm represents about ½ grain of metallic Iron.

Note.—This preparation is practically identical with that which is officinal in the Germ. Pharm.

397. TINCTURA FERRI CITRO-CHLORIDI.

Tincture of Citro-Chloride of Iron.

Tasteless Tincture of Chloride of Iron. Tasteless Tincture of Iron.

Solution of Chloride of Iron (U. S. P.)	4 fluidounces.
Citrate of Sodium	7 troy ounces.
Alcohol	2½ fluidounces.
Water . . . . . enough to make	16 "

Mix the Solution of Chloride of Iron with *four* (4) *fluidounces* of Water, and dissolve in this mixture the Citrate of Sodium with the aid of a gentle heat. Then add the Alcohol, and when the solution has become cold, make up the volume with water to *sixteen* (16) *fluidounces*. Set the product aside in a cold place for a few days, if convenient, so that the excess of saline matter may separate. Then filter, and pass enough cold Water through the filter to restore the original volume.

Each fluidrachm contains an amount of Iron equivalent to about 7½ grains of dry Chloride of Iron (ferric).

Note.—This preparation is practically identical in the strength of iron, but not in the quantity of alcohol, with the officinal *Tinctura Ferri Chloridi.*

398. TINCTURA FERRI POMATA.

Tincture of Ferrated Extract of Apples.

Tinctura Ferri Malatis Crudi. Tincture of Crude Malate of Iron.

Ferrated Extract of Apples	800 grains.
Alcohol	1½ fluidounces.
Cinnamon Water . . . . . enough to make	16 "

Dissolve the Ferrated Extract of Apples in *twelve* (12) *fluidounces* of Cinnamon Water, add the Alcohol, filter, and pass enough Cinnamon Water through the filter, to make *sixteen* (16) *fluidounces.*

Each fluidrachm represents about 3/8 grain of metallic Iron.

Note.—This preparation is practically identical with that officinal in the Germ. Pharm. Ferrated Extract of Apples is the *Extractum Ferri Pomatum* (see No. 149).

399. TINCTURA GUAIACI COMPOSITA.

Compound Tincture of Guaiac.

Dewee's Tincture of Guaiac.

Resin of Guaiac	2 troy ounces.
Carbonate of Potassium	45 grains.
Pimenta, in moderately fine powder	240 "
Pumice, in fine powder	1 troy ounce.
Alcohol	7 fluidounces.
Water	8 "
Diluted Alcohol	enough to make 16 "

Triturate the Resin of Guaiac and Carbonate of Potassium, with the Pimenta and the Pumice, and afterwards gradually with the Alcohol. Next add slowly *seven* (7) *fluidounces* of cold Water and triturate the mixture thoroughly. Then filter, and pass enough Diluted Alcohol through the filter to make *sixteen* (16) *fluidounces.*

Each fluidrachm represents 7½ grains of Resin of Guaiac.

400. TINCTURA IODI, CHURCHILL.

Churchill's Tincture of Iodine.

Iodine	2½ troy ounces.
Iodide of Potassium	½ troy ounce.
Water	4 fluidounces.
Alcohol	enough to make 16 "

Dissolve the Iodide of Potassium in the Water, then add the Iodine, and lastly, enough Alcohol to make the Tincture, when completed, measure *sixteen* (16) *fluidounces.*

Note.—Churchill's Tincture of Iodine should not be confounded with Churchill's Iodine Caustic (*Liquor Iodi Causticus*, No. 222).

401. TINCTURA IODI DECOLORATA.

Decolorized Tincture of Iodine.

Iodine	610 grains.
Hyposulphite of Sodium	610 "
Water	1½ fluidounces.
Stronger Water of Ammonia (U. S. P.)	1 fluidounce.
Alcohol	enough to make 16 fluidounces.

Digest the Iodine, Hyposulphite of Sodium, and Water, at a gentle

heat, until a perfect solution, of a dark reddish-brown color, is produced. Then add *two* (2) *fluidounces* of Alcohol, and afterwards, the Stronger Water of Ammonia. Shake a few minutes until no more bubbles of gas escape, and the liquid has become colorless, with a whitish precipitate (of sulphur) suspended in it. Cool it, if necessary, and add enough Alcohol to make *sixteen* (16) *fluidounces*. Place the bottle containing it in a refrigerator for a few hours, or longer, if convenient, then filter, in a covered funnel, and preserve the liquid for use.

Note.—On prolonged standing a crystalline precipitate of tetrathionate of sodium will usually form in the liquid. This may be removed by filtration.

402. TINCTURA JALAPÆ.

Tincture of Jalap.

Jalap, in fine powder	3 troy ounces.
Alcohol,	
Water, each	enough to make 16 fluidounces.

Mix *two* (2) *volumes* of Alcohol with *one* (1) *volume* of Water. Percolate the Jalap with this mixture, in the usual manner, until *sixteen* (16) *fluidounces* of Tincture are obtained.

Note.—This preparation was officinal in the U. S. P. of 1870.

403. TINCTURA JALAPÆ COMPOSITA.

Compound Tincture of Jalap.

Jalap, in fine powder	2 troy ounces.
Scammony, in powder	½ troy ounce.
Alcohol,	
Water, each	enough to make 16 fluidounces.

Mix *two* (2) *volumes* of Alcohol, with *one* (1) *volume* of Water. Mix the powders with half their weight of sand; moisten the mixture with a sufficient quantity of the menstruum, pack it in a percolator, and percolate it with the menstruum, in the usual manner, until *sixteen* (16) *fluidounces* of Tincture are obtained.

404. TINCTURA KINO COMPOSITA.

Compound Tincture of Kino.

Tincture of Kino	1½ fluidounces.
Tincture of Opium	1½ "
Spirit of Camphor	520 minims.
Oil of Cloves	10 "
Cochineal, in powder	64 grains.
Aromatic Spirit of Ammonia	60 minims.
Diluted Alcohol	enough to make 16 fluidounces.

Triturate the Cochineal with the Aromatic Spirit of Ammonia, and gradually add *eleven* (11) *fluidounces* of Diluted Alcohol. Then

add the two Tinctures, the Spirit of Camphor, and the Oil of Cloves, and filter the mixture through paper. Lastly, pass enough Diluted Alcohol through the filter to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents about ½ grain, each, of Kino and of Powdered Opium.

405. TINCTURA PAPAVERIS.

Tincture of Poppy.

Poppy capsules, freed from seeds, and in coarse powder	8 troy ounces.
Glycerin	2 fluidounces.
Alcohol,	
Water, each	enough to make 16 fluidounces.

Digest the Poppy capsules with *three* (3) *pints* of boiling Water during two hours, then express and strain. Evaporate the strained liquid to *eight* (8) *fluidounces*, mix it with *four* (4) *fluidounces* of Alcohol, and set the mixture aside, well covered, until it is quite cold. Then filter, add the Glycerin to the filtrate, and pass enough of a mixture of *two* (2) *volumes* of Water and *one* (1) *volume* of Alcohol through the filter, to make the product measure *sixteen* (16) *fluidounces*.

Each fluidrachm represents 30 grains of Poppy (Capsule) freed from seeds.

406. TINCTURA PECTORALIS.

Pectoral Tincture.

Guttæ Pectorales. Pectoral Drops. Bateman's Pectoral Drops.	
Tincture of Opium	320 minims.
Compound Tincture of Catechu	240 "
Spirit of Camphor	300 "
Oil of Anise	8 "
Caramel	120 "
Diluted Alcohol	enough to make 16 fluidounces.

Mix the first five ingredients with enough Diluted Alcohol to make *sixteen* (16) *fluidounces*, and filter.

Each fluidrachm contains 2½ minims of Tincture of Opium.

407. TINCTURA PERSIONIS.

Tincture of Cudbear.

Cudbear, in fine powder	2 troy ounces.
Alcohol,	
Water, each	enough to make 16 fluidounces.

Pack the Cudbear in a suitable percolator, and percolate it with a mixture of *one* (1) *volume* of Alcohol and *two* (2) *volumes* of Water, until *sixteen* (16) *fluidounces* of Tincture are obtained.

Note.—This preparation is intended as a coloring agent, when a bright-red tint or color is to be produced, particularly in acid liquids.

408. TINCTURA PERSIONIS COMPOSITA.

Compound Tincture of Cudbear.

Cudbear	120 grains.
Caramel	1½ troy ounces.
Alcohol,	
Water, each	enough to make 16 fluidounces.

Mix *one* (1) *volume* of Alcohol with *two* (2) *volumes* of Water. Macerate the Cudbear with *twelve* (12) *fluidounces* of the menstruum during twelve hours, agitating occasionally, and then filter through paper, and add the Caramel, previously dissolved in *two* (2) *fluidounces* of Water. Then pass enough of the before-mentioned menstruum through the filter to make the whole measure *sixteen* (16) *fluidounces*.

Note.—This preparation is intended as a coloring agent, when a brownish-red tint or color is to be produced.

409. TINCTURA PIMPINELLÆ.

Tincture of Pimpinella.

Pimpinella, root	2½ troy ounces.
Alcohol,	
Water, each	enough to make 16 fluidounces.

Mix *two* (2) *volumes* of Alcohol with *one* (1) *volume* of Water. Macerate the Pimpinella, reduced to a moderately coarse (No. 40) powder, with enough of the menstruum to keep it distinctly damp during twelve hours. Then percolate it with the same menstruum, in the usual manner, until *sixteen* (16) *fluidounces* of Tincture are obtained.

Note.—This preparation is approximately of the same strength as that which is officinal in the *Germ. Pharm.* Pimpinella root is derived from *Pimpinella Saxifraga* Linné, and *Pimpinella magna* Linné.

410. TINCTURA QUILLAJÆ.

Tincture of Quillaja.

Quillaja, in fine chips	8 troy ounces.
Alcohol	1 pint.
Water	enough to make 3 pints.

Place the Quillaja in a suitable vessel, with *two* (2) *pints* of Water, and boil it for fifteen minutes, then strain and add enough Water through the strainer to make the strained decoction, when cold, measure *two* (2) *pints*. Pour this into a bottle containing the Alcohol, let the mixture stand twelve hours, then filter it through paper, and add enough Water to the filtrate to make it measure *three* (3) *pints*.

Each fluidrachm represents 10 grains of Quillaja.

Note.—This preparation, aside from its therapeutic use, may be employed as an emulsifying agent for oils, balsams, resins. (See Note to No. 114, IV. "Quillaja Emulsion of Cod Liver Oil," page 40.)

411. TINCTURA RHEI AQUOSA.

Aqueous Tincture of Rhubarb.

1. Rhubarb	720	grains.
Borate of Sodium	72	"
Carbonate of Potassium	72	"
Cinnamon Water	2	fluidounces.
Alcohol	1¾	"
Water	enough to make 16	"

Dissolve the Borate of Sodium and the Carbonate of Potassium in *twelve* (12) *fluidounces* of Water, and macerate in this solution, during twenty-four hours, the Rhubarb, cut into thin slices and carefully freed from any adhering fine powder. Then strain it through muslin, heat the strained liquid to boiling, add the Cinnamon Water and Alcohol, stir it well and filter, while warm, in a covered funnel. To the cold filtrate add enough Water to make the product measure *sixteen* (16) *fluidounces*.

Each fluidrachm represents about 5⅔ grains of Rhubarb.

Note.—The product is practically identical with that obtained by the process of the Germ. Pharm., in which this preparation is officinal. It is liable to deteriorate when kept too long, and should not be prepared in larger quantity than may be consumed within a short time.

When this preparation is required for immediate use, and it is not otherwise obtainable, it may be prepared in the following manner:

2. Fluid Extract of Rhubarb	720	minims.
Borate of Sodium	72	grains.
Carbonate of Potassium	72	"
Cinnamon Water	2	fluidounces.
Alcohol	1¾	"
Water	enough to make 16	"

Dissolve the Borate of Sodium and the Carbonate of Potassium in about *eight* (8) *fluidounces* of Water. Add the Cinnamon Water, Alcohol, and Fluid Extract of Rhubarb, and lastly, enough Water to make the product measure *sixteen* (16) *fluidounces*. Filter, if necessary.

412. TINCTURA RHEI ET GENTIANÆ.

Tincture of Rhubarb and Gentian.

1. Rhubarb	512	grains.
Gentian	128	"
Diluted Alcohol	enough to make 16	fluidounces.

Reduce the solids to a moderately coarse (No. 40) powder, and percolate it, in the usual manner, with Diluted Alcohol, until *sixteen* (16) *fluidounces* of percolate are obtained.

Each fluidrachm represents 4 grains of Rhubarb and 1 grain of Gentian.

Note.—When this preparation is required for immediate use, and it is not otherwise obtainable, it may be prepared in the following manner:

2. Fluid Extract of Rhubarb . . . . . 512 minims.
Fluid Extract of Gentian 128
Diluted Alcohol . . . . . enough to make 16 fluidounces.

Mix the Fluid Extracts with enough Diluted Alcohol to make *sixteen* (16) *fluidounces*, and filter.

413. TINCTURA RHEI VINOSA.

Vinous Tincture of Rhubarb.

Fluid Extract of Rhubarb . . . . . 600 minims.
Fluid Extract of Bitter Orange Peel . . . . . 150 "
Tincture of Cardamom . . . . . 600 "
Sugar . . . . . 2 troy ounces.
Sherry Wine . . . . . enough to make 16 fluidounces.

Mix the Fluid Extracts and the Tincture with *eight* (8) *fluidounces* of Sherry Wine. In this dissolve the Sugar by agitation, then add enough Sherry Wine to make *sixteen* (16) *fluidounces*, and filter.

Note.—This preparation corresponds, in strength, to that which is officinal in the Germ. Pharm.

414. TINCTURA SAPONIS VIRIDIS COMPOSITA.

Compound Tincture of Green Soap.

Green Soap . . . . . 2¼ troy ounces.
Oil of Cade . . . . . 140 minims.
Alcohol . . . . . enough to make 16 fluidounces.

Dissolve the Green Soap in *twelve* (12) *fluidounces* of Alcohol, add the Oil of Cade, and then enough Alcohol to make the product measure *sixteen* (16) *fluidounces*, and filter.

415. TINCTURA STROPHANTHI.

Tincture of Strophanthus.

Strophanthus seeds, freed from their comose appendage, reduced to No. 30 powder, and dried at 50° C. (122° F.) . . . . . 1 troy ounce.
Stronger Ether . . . . . a sufficient quantity.
Alcohol . . . . . enough to make 20 fluidounces.

Pack the Strophanthus in a suitable percolator, pour on enough Stronger Ether to saturate the powder thoroughly, cover the percolator and macerate during twenty-four hours. Then allow the percolation to proceed, gradually pouring on Stronger Ether, until the liquid passes through colorless. This ethereal percolate is to be rejected. Remove the marc from the percolator, and dry it, first by exposure to air, and then at a temperature of 50° C. (122° F.).

Again reduce it to powder, moisten it with Alcohol, repack it in the percolator, and macerate during forty-eight hours. Then percolate it with Alcohol, in the usual manner, until *twenty* (20) *fluidounces* of Tincture are obtained.

Each fluidrachm represents 3 grains of Strophanthus. The dose is about 2 to 10 minims.

Note.—Strophanthus seeds are obtained from one or more species of *Strophanthus* growing in Eastern Africa, and are usually referred to *Strophanthus Kombé* Oliver.

416. TINCTURA TOLUTANA SOLUBILIS.

Soluble Tincture of Tolu.

Balsam of Tolu	1½ troy ounces.
Carbonate of Magnesium	60 grains.
Glycerin	6 fluidounces.
Water,	
Alcohol, each	enough to make 16 fluidounces.

Mix *three* (3) *fluidounces* of Alcohol with the Glycerin, and dissolve the Balsam of Tolu in the mixture with the aid of heat, avoiding loss by evaporation. Next add *six* (6) *fluidounces* of Water, and allow the mixture to become cold. Pour off the milky liquid from the resinous precipitate (which latter is to be rejected), mix it with the Carbonate of Magnesium by trituration, and filter. Lastly, pass enough of a mixture of *one* (1) *volume* of Alcohol and *two* (2) *volumes* of Water through the filter, to make the whole filtrate measure *sixteen* (16) *fluidounces*.

Note.—This preparation may be added to Syrup or Water without producing cloudiness. A mixture of 1 fluidounce of this preparation with 15 fluidounces of Syrup yields a product which may be used as Syrup of Tolu in all cases where the officinal preparation is not required.

417. TINCTURA VANILLINI COMPOSITA.

Compound Tincture of Vanillin.

Compound Essence of Vanillin.

Vanillin	45 grains.
Cumarin	3 "
Alcohol	3 fluidounces.
Glycerin	2 "
Syrup	2 "
Compound Tincture of Cudbear (N. F.)	120 minims.
Water	enough to make 16 fluidounces.

Dissolve the Vanillin and Cumarin in the Alcohol, add the Glycerin, Syrup, and Compound Tincture of Cudbear, and lastly, enough Water to make *sixteen* (16) *fluidounces*.

418. TINCTURA ZEDOARIÆ AMARA.

Bitter Tincture of Zedoary.

Compound Tincture of Zedoary.

Zedoary, root	4 troy ounces.
Aloes	2 " "
Rhubarb	1 troy ounce.
Gentian	1 " "
White Agaric	1 " "
Saffron	1 " "
Glycerin	2 fluidounces.
Alcohol,	
Water, each	enough to make 16 "

Reduce the solids to a moderately coarse (No. 40) powder, moisten this with a sufficient quantity of a mixture of *two* (2) *volumes* of Alcohol and *one* (1) *volume* of Water, and percolate it in the usual manner, with this menstruum, until *twelve* (12) *fluidounces* of percolate are obtained. Add to this the Glycerin and set it aside. Then continue the percolation, until the drugs are practically exhausted, evaporate the new percolate to *two* (2) *fluidounces* and add it to the reserved portion.

Each fluidrachm represents 15 grains of Zedoary, 7½ grains of Aloes, and 3¾ grains, each, of the other drugs.

Note.—The above preparation is not identical with the *Tinctura Zedoariæ Composita* (also known as *Tinctura Carminativa*, *Tinctura Wedelii*) which was formerly officinal in some continental pharmacopœias.

419. UNGUENTUM CALAMINÆ.

Calamine Ointment.

Unguentum Zinci Carbonatis (Impuri). Unguentum Calaminare. Turner's Cerate.

Prepared Calamine	1 part.
Ointment (U. S. P.)	5 parts.

Mix them intimately, by trituration, so as to produce a smooth and homogeneous ointment.

420. UNGUENTUM CAMPHORÆ.

Camphor Ointment.

Unguentum Camphoratum.

Camphor, in coarse powder	2 parts.
White Wax	1 part.
Lard	6 parts.

Melt the White Wax and Lard with a gentle heat, then add the Camphor, and stir the Ointment until it is cold.

421. UNGUENTUM FUSCUM.

Brown Ointment.

Unguentum Matris. Mother's Salve.

Camphorated Brown Plaster (N. F.)	2 parts.
Olive Oil	1 part.
Suet	1 "

Melt them together, and stir the mass until it is cold.

422. UNGUENTUM PICIS COMPOSITUM.

Compound Tar Ointment.

Oil of Tar	4 parts.
Tincture of Benzoin	2 "
Oxide of Zinc	3 "
Yellow Wax	26 "
Lard	32 "
Cotton Seed Oil	35 "

Melt the Yellow Wax and Lard with the Cotton Seed Oil at a gentle heat. Add the Tincture of Benzoin, and continue heating until all the Alcohol has evaporated. Then withdraw the heat, add the Oil of Tar, and finally the Oxide of Zinc, incorporating the latter thoroughly, so that on cooling, a smooth, homogeneous ointment may result.

423. UNGUENTUM SULPHURIS COMPOSITUM.

Compound Sulphur Ointment.

Wilkinson's Ointment. Hebra's Itch Ointment.

Precipitated Carbonate of Calcium	10 parts.
Sublimed Sulphur	15 "
Oil of Cade	15 "
Green Soap	30 "
Lard	30 "

Mix the Lard with the Green Soap and Oil of Cade. Then gradually incorporate the Sublimed Sulphur and Precipitated Carbonate of Calcium.

424. VINUM AURANTII.

Wine of Orange.

Oil of Bitter Orange	6 minims.
Alcohol	60 "
Purified Talcum	120 grains.
Sherry Wine	enough to make 16 fluidounces.

Triturate the Purified Talcum, first with the Alcohol, in which the Oil of Bitter Orange had previously been dissolved, and after-

wards with *twelve* (12) *fluidounces* of Sherry Wine, gradually added. Filter the mixture through a wetted filter, returning the first portions of the filtrate until it runs through clear, and lastly, pass enough Sherry Wine through the filter to make *sixteen* (16) *fluidounces*.

425. VINUM AURANTII COMPOSITUM.

Compound Wine of Orange.

Elixir Aurantiorum Compositum (Germ. Pharm.). *Compound Elixir of Orange.*

Bitter Orange Peel	1600	grains.
Absinthium	480	"
Menyanthes, leaves	480	"
Cascarilla	480	"
Cinnamon (Cassia)	320	"
Gentian	320	"
Carbonate of Potassium	80	"
Sherry Wine	enough to make	16 fluidounces.

Reduce the six first-named drugs to a moderately coarse (No. 40) powder, mix with this the Carbonate of Potassium, moisten the mixture with Sherry Wine, and let it macerate during twenty-four hours. Then pack it in a percolator, and percolate with Sherry Wine, in the usual manner, until *sixteen* (16) *fluidounces* of product are obtained.

Note.—The Germ. Pharm. directs to macerate the Orange Peel, Cinnamon and Carbonate of Potassium with the Sherry Wine, and then to add the other drugs in form of extracts. The proportions above given produce a product practically identical with that of the Germ. Pharm.

426. VINUM CARNIS.

Wine of Beef.

Beef and Wine.

Extract of Beef	256	grains.
Hot Water	1	fluidounce.
Sherry Wine	enough to make	16 fluidounces.

Pour the Hot Water upon the Extract of Beef contained in a mortar or other suitable vessel, and triturate until a smooth mixture results. Then gradually add, while stirring, *fourteen* (14) *fluidounces* of Sherry Wine. Transfer the mixture to a bottle, set this aside for a few days in a cold place, if convenient, then filter, and pass enough Sherry Wine through the filter to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents 2 grains of Extract of Beef.

Note.—The Extract of Beef suitable for this or similar preparations is that which is prepared by Liebig's method.

427. VINUM CARNIS ET FERRI.

Wine of Beef and Iron.

Beef, Wine and Iron.

Extract of Beef	256 grains.
Tincture of Citro-Chloride of Iron	256 minims.
Hot Water	1 fluidounce.
Sherry Wine . . . . . enough to make	16 fluidounces.

Pour the Hot Water upon the Extract of Beef contained in a mortar or other suitable vessel, and triturate until a smooth mixture results. Then gradually add, while stirring, *twelve* (12) *fluidounces* of Sherry Wine. Next add the Tincture and enough Sherry Wine to make *sixteen* (16) *fluidounces*. Transfer the mixture to a bottle, set this aside for a few days in a cold place, if convenient, filter, and pass enough Sherry Wine through the filter to restore the original volume.

Each fluidrachm represents 2 grains of Extract of Beef, and 2 minims of Tincture of Citro-Chloride of Iron.

Note.—Regarding Extract of Beef, see Note to No. 426.

428. VINUM CARNIS, FERRI ET CINCHONÆ.

Wine of Beef, Iron and Cinchona.

Beef, Wine, Iron and Cinchona.

Extract of Beef	256 grains.
Tincture of Citro-Chloride of Iron	256 minims.
Sulphate of Quinine	16 grains.
Sulphate of Cinchonidine	8 "
Citric Acid	6 "
Hot Water	1 fluidounce.
Angelica Wine . . . . . enough to make	16 fluidounces.

Dissolve the Citric Acid and the Sulphates of Quinine and Cinchonidine in the Hot Water, and pour the solution upon the Extract of Beef contained in a mortar, or other suitable vessel. Triturate the liquid with the Extract, until they form a smooth mixture, then gradually add, while stirring, *twelve* (12) *fluidounces* of Angelica Wine, and afterwards the Tincture of Citro-Chloride of Iron. Transfer the mixture to a bottle, set this aside for a few days in a cold place, if convenient, filter, and pass enough Angelica Wine through the filter to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents 2 grains of Extract of Beef, 2 minims of Tincture of Citro-Chloride of Iron, and small quantities of Cinchona alkaloids.

Note.—Regarding Extract of Beef, see Note to No. 426. Angelica Wine is a variety of sweet California wine.

429. VINUM ERYTHROXYLI.

Wine of Erythroxylon.

Wine of Coca.

Fluid Extract of Erythroxylon	1 fluidounce.
Alcohol	1 "
Sugar	1 troy ounce.
Claret Wine	enough to make 16 fluidounces.

Dissolve the Sugar in about *ten* (10) *fluidounces* of Claret Wine, add the Alcohol and Fluid Extract, and enough Claret Wine to make *sixteen* (16) *fluidounces*. Let the mixture stand a few days in a cold place, if convenient, then filter and pass enough Claret Wine through the filter, to restore the original volume.

Each fluidounce represents 30 grains of Erythroxylon (Coca).

Note.—In place of Claret Wine, any other palatable wine may be used, according to the demand or preference of the prescriber or consumer.

430. VINUM ERYTHROXYLI AROMATICUM.

Aromatic Wine of Erythroxylon.

Aromatic Wine of Coca.

Fluid Extract of Erythroxylon	1 fluidounce.
Compound Elixir of Taraxacum	60 minims.
Syrup of Coffee	180 "
Port Wine	2⅔ fluidounces.
Aromatic Elixir	4½ "
Sherry Wine	enough to make 16 "

Mix the five first-named ingredients with *seven* (7) *fluidounces* of Sherry Wine. Let the mixture stand several days in a cold place, if convenient, then filter, and pass enough Sherry Wine through the filter to make the product measure *sixteen* (16) *fluidounces*.

Each fluidounce represents 30 grains of Erythroxylon (Coca).

431. VINUM FRAXINI AMERICANÆ.

Wine of White Ash.

Fraxinus (bark) in No. 40 powder	8 troy ounces.
Stronger White Wine (U. S. P.)	enough to make 16 fluidounces.

Moisten the powdered Fraxinus with *sixteen* (16) *fluidounces* of Stronger White Wine, macerate it during three days in a well covered vessel, then pack it in a percolator, and gradually pour on Stronger White Wine, until *sixteen* (16) *fluidounces* of percolate are obtained. Keep the product in well-stoppered bottles, which should be completely filled, and stored in a cool place.

Each fluidrachm represents 30 grains of Fraxinus (bark).

Note.—Fraxinus bark is the inner bark of the trunk or root of ***Fraxinus Americana*** Linné (White Ash).

432. VINUM PEPSINI.

Wine of Pepsin.

Pepsin (N. F.)	128 grains.
Glycerin	360 minims.
Hydrochloric Acid	30 "
Water	1 fluidounce.
Purified Talcum	120 grains.
Stronger White Wine (U. S. P.)	enough to make 16 fluidounces.

Mix the Water, Glycerin and Hydrochloric Acid, and agitate the Pepsin with the mixture until it is completely disintegrated and apparently dissolved. Then add enough Stronger White Wine to make *sixteen* (16) *fluidounces*, mix the liquid intimately with the Purified Talcum, allow it to stand for a week, if convenient, frequently shaking, then filter, and pass enough Stronger White Wine through the filter to restore the original volume.

Each fluidrachm represents 1 grain of Pepsin (N. F.).

433. VINUM PICIS.

Wine of Tar.

Tar	1½ troy ounces.
Water	4 fluidounces.
Pumice, in moderately fine powder	2 troy ounces.
Stronger White Wine	enough to make 16 fluidounces.

Upon the Tar contained in a suitable vessel pour *four* (4) *fluidounces* of cold Water, and triturate the mixture thoroughly; then pour off the Water and throw it away. Mix the remaining Tar thoroughly with the powdered Pumice, and add *sixteen* (16) *fluidounces* of Stronger White Wine. Stir frequently during four hours, then transfer the mixture to a wetted filter, and, after the liquid has passed, pour on enough Stronger White Wine to make the filtrate measure *sixteen* (16) *fluidounces*.

434. VINUM PRUNI VIRGINIANÆ.

Wine of Wild Cherry.

Wild Cherry, in No. 40 powder	4 troy ounces.
Sugar	2½ " "
Water	3 fluidounces.
Alcohol	1 fluidounce.
Purified Talcum	120 grains.
Angelica Wine	enough to make 16 fluidounces.

Dissolve the Sugar in the Water. Moisten the Wild Cherry with a sufficient quantity of this solution, and allow it to macerate during

one hour. Then transfer it to a percolator, pour upon it the remainder of the solution, and afterwards, enough Angelica Wine until *fifteen* (15) *fluidounces* of percolate are obtained. Add to this the Alcohol, mix the Purified Talcum intimately with the liquid, then filter, returning the first portions of the filtrate until it runs through clear, and finally pass enough Angelica Wine through the filter, to make the product measure *sixteen* (16) *fluidounces*.

Each fluidrachm represents 15 grains of Wild Cherry.

435. VINUM PRUNI VIRGINIANÆ FERRATUM.

Ferrated Wine of Wild Cherry.

Tincture of Citro-Chloride of Iron	640 minims.
Wine of Wild Cherry	enough to make 16 fluidounces.

Mix the Tincture with enough Wine of Wild Cherry to make *sixteen* (16) *fluidounces*.

Each fluidrachm represents 5 minims of Tincture of Citro-Chloride of Iron and 13¾ grains of Wild Cherry.

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The figures refer to the pages. To save unnecessary repetition of Latin and English titles, when these are practically identical, the several titles beginning with "Elixir" (Engl. "Elixir"), "Linimentum" and "Liniment," "Spiritus" and "Spirit," "Syrupus" and "Syrup" "Tinctura" and "Tincture" have been arranged, respectively, in *one* series. Under the list of Fluid Extracts, the word "Fluidum" has been abbreviated to "Fl."

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